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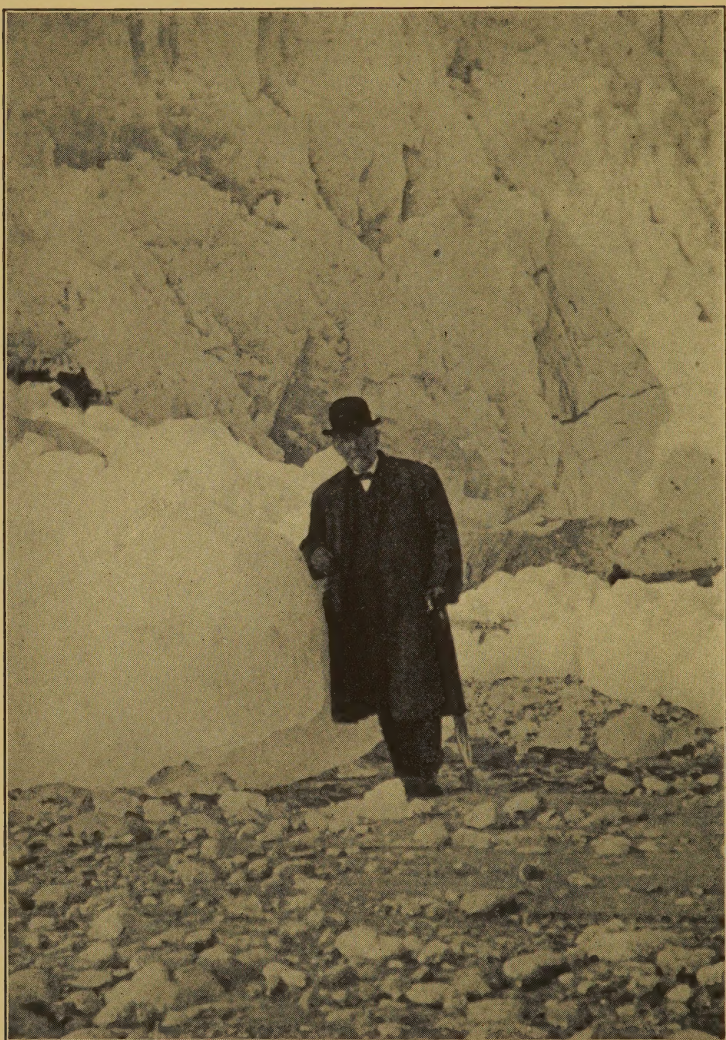
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THE
INSIDE PASSAGE TO ALASKA

1792-1920

Volume I



WILLIAM WATSON WOOLLEN
At Muir Glacier, 1913

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THE INSIDE PASSAGE TO ALASKA

1792-1920

with an account of the North Pacific Coast from
Cape Mendocino to Cook Inlet, from the ac-
counts left by Vancouver and other early
explorers, and from the author's jour-
nals of exploration and travel in
that region

by

William Watson Woollen

edited from his original manuscripts by

Paul L. Haworth

Volume I



BY
WILLIAM
WATSON
WOOLLEN

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Cleveland: 1924

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Introduction

The author of these volumes was a lawyer, and for sixty years practiced his profession in his native city of Indianapolis. He was a student at Northwestern Christian University (now Butler College), graduated from its law course, and was admitted to the bar in 1861. He compiled a number of legal works that were widely used, including Woollen's *Trial Procedure*, Woollen's *Special Procedure*, and Woollen's *Indiana Digest*. At the time of his death, March 26, 1921, he was the senior member of the bar of Indianapolis both in age and in continuous practice. At a special meeting of the Indianapolis Bar Association impressive tributes were paid to his abilities as a lawyer and to his qualities as a man and citizen.

Mr. Woollen's legal career won him a position of prominence in his city and state, but, as occasionally happens, it was overshadowed by his enthusiastic pursuit of a hobby—a love of nature, both animate and inanimate. He was an organizing member of the Indiana Audubon Society and of the Nature Study Club of Indiana, a member of the Indiana Academy of Science, the American Association for the Advancement of Science, and other similar organizations. The Nature Study Club, of which he was the prime mover, developed into a unique organization. "No other of which I have knowledge," says Dean Stanley Coulter, "has such continuous and successful field trips running throughout the year. No other, I think, has been able

to show such fine results from field trips, for they have been not merely 'outings' but a real nature study. In them the open has been the laboratory, and the work has been fruitful not merely from the standpoint of the members, but also because of positive additions to our scientific knowledge."

Mr. Woollen's interest in nature was not that of the closet scientist with his scalpel and microscope. Rather he was of the type of Thoreau, Muir, and Burroughs. Like Wordsworth he felt in nature a presence that disturbed him with the joy

Of elevated thoughts; a sense sublime
Of something far more deeply interfused,
Whose dwelling is the light of setting suns,
And the round ocean and the living air,
And the blue sky, and in the mind of man;
A motion and a spirit, that impels
All thinking things, all objects of all thoughts,
And rolls through all things.

At Buzzard's Roost, a wild and beautiful tract of land outside Indianapolis, he established a refuge for birds and other wild creatures. There he spent many hours communing with nature in her "visible forms," and thither he led his Nature Study Club and other lovers of natural beauty. Ultimately, in 1909, he gave this tract to Indianapolis that it might be permanently preserved in its beauty. It is recorded at Washington that this was the first private gift in the United States of a tract of land for the protection of wild birds and for nature study.

The results of many years observations of the feathered denizens of the refuge above referred to were ultimately gathered into a book entitled *Birds of Buzzard's Roost*. Mr. Woollen also contributed many

nature articles to newspapers and other periodicals and was an active promoter of the study of nature in the schools.

In 1912, he made an extended trip to the Pacific Northwest coast and was so impressed by the scenic wonders of the region that one morning in his berth on the homeward trip from Skagway, while approaching the old Russian town of Sitka, he conceived the idea of writing a book on the famous "Inside Passage to Alaska." On reaching home he immediately began work upon the book but soon found the task more arduous than he had anticipated. By the summer of 1913 he had written twenty-four chapters but became convinced that the whole must be rewritten and that before doing so he must make another voyage to the region he was attempting to describe. Ultimately, in fact, he made five trips to the region, nor did he spare time or trouble in consulting the works already written by other hands. On his final trip in 1919 he partially lost his eyesight, and this made very difficult and much delayed his work on the book, in which he had become increasingly interested. Aware that his life could not be much prolonged, he worked with feverish anxiety to complete the manuscript and succeeded in doing so only a few weeks before his death. He was, however, unable to revise it as thoroughly as he had wished.

In its final form the book traces the discoveries made by Vancouver and other early navigators along the northwest coast, incorporates many interesting facts of natural history, and describes the region as Mr. Woollen found it in the course of his own travels. The manuscript has been greatly condensed by the editor, but the responsibility for the facts remains with the original author.

At the time of his death Mr. Woollen was perhaps the most widely known naturalist in his state, and his passing called forth many expressions of regret both formal and otherwise. At a joint spring meeting of the Indiana Academy of Science, the Indiana Audubon Society, and the Nature Study Club of Indiana a tablet given by the Nature Study Club was unveiled at Buzzard's Roost, which the Nature Study Club had formally decided should thenceforth be called "Woollen's Garden of Birds and Botany." The chief address was delivered by Dean Stanley Coulter of Purdue University.

"To most of us," said Dr. Coulter, "he stands as the representative of his avocation – the nature student, the nature lover. And surely of the nature lovers we know, none was so true a knight to his lady, none quite so unswervingly loyal, none quite so spotless, none quite so self-forgetful, and certainly none received such rich rewards in the enrichment of life, in serenity of soul, in certitude in the face of life's problems and in the sheer joy of beauty and life."

PAUL L. HAWORTH

From England to California

In 1513, Balboa, footsore and famished, beheld from "a peak in Darien" the broad expanse of the South Sea. Seven years later Magellan sailed through the strait that bears his name and emerged upon the same broad ocean, which, because of its seemingly peaceful waters, he named the "Pacific." The exploration of the western coasts of South America, Central America, and Mexico rapidly followed, and in course of time other adventurous navigators, among them Drake, Bering, and Cook, sailed along the Northwest coast and discovered many of its secrets.

The names of some of these navigators need not figure in this book, but that of one of them, namely Juan de Fuca, claims our immediate attention. According to a story, considered by some historians to be a fabrication, De Fuca sailed from Mexico in 1592 and entered the strait named after him at the head of Puget Sound. De Fuca, if we are to believe the account given by him to Michael Lok, a reputable cosmographer, and printed in a note in Purchas, was a Greek, born in the island of Cephalonia, and his real name was Apostolos Valerianos. He served for forty years as a pilot in the Spanish service and was aboard a galleon that was captured by Cavendish off the point of California, in November, 1587, and personally lost sixty thousand ducats to his English captors. Subsequently he was pilot to three vessels sent by the Mexican viceroy to find the Straits of Anian and fortify them, but because

of a mutiny among the crew the ships turned back from the California coast.

In 1592, De Fuca was himself sent out in charge of a small *garauela* and a pinnace to find the same Straits of Anian, which were supposed to connect with the Atlantic. He sailed northward along the Northwest coast "untill he came to the latitude of fortie seven degrees, and . . . there finding that the land trended North and North-east, with a broad inlet of sea, between 47 and 48 degrees of latitude, hee entered thereinto, sayling therein twentie days, and found . . . a very much broader sea than was at the said entrance." He "passed by diuers islands in the sayling" and saw at the entrance to the strait, "in the north-west coast thereof, a great headland or island, with an exceedingly high pinnacle or spiral rocks, like a pillar thereupon." He found people clad in skins and a fruitful land, "rich of gold, siluer, pearls and other things," and came "to the North sea" and found the "sea wide enough euery where, and to be about thirtie or fortie leagues in the mouth, where he entered." He returned to Acapulco before the end of the year, hoping for a reward, and by advice of the viceroy went to Spain but obtained no other recompense than fair words, so at length he "stole away out of Spaine . . . to go home againe and live among his owne kindred and countrimen; he being very old."

In 1708 there appeared in "The Monthly Miscellany or Memoirs of the Various," published in London, a letter accredited to Admiral Batholeme de Fuentes or Fonte, a Spanish or Portuguese navigator, in which he said he sailed from Lima, in 1640; that he took a north-westerly course, and after reaching latitude 53°, discovered an archipelago which he named St. Lazarus;

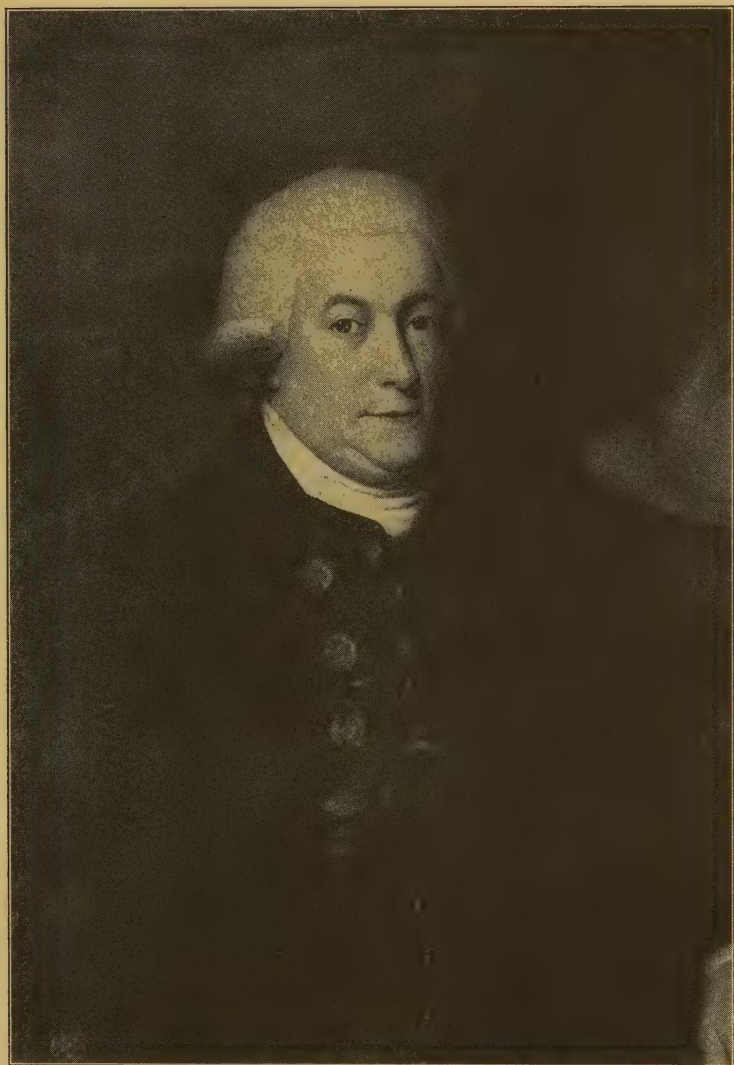
that he sailed about two hundred and sixty leagues in crooked channels among the islands of this archipelago; and that he entered a river flowing from the east and sailed eastward through other rivers and lakes of vast extent until he fell in with Captain Shapely who had come from Boston, and consequently from the east, all of which as he concluded, showed there was a communication between the two oceans. He made presents to the officers and men of Shapely's ship, and bought his fine charts and journals. This letter was republished in London in 1744 by Sir Arthur Dobbs, in his account of the countries that border on Hudson Bay, and in commenting upon it, he said that from information which he had gathered in America, there was a Captain Shapely living in Boston in the time of Fonte's voyage.

Historians now doubt whether any such man as Captain Shapely ever existed, and, as we shall see, Vancouver demonstrated that he never made such a voyage. The story is one of many myths connected with the long search for a "Northwest Passage," connecting the Atlantic and the Pacific. Two centuries after Shapely's reputed voyage Sir John Franklin's ill-fated followers may have discovered a Northwest Passage, but, if so, their story perished with them. We know that one of the parties sent out to search for Franklin, namely that under Captain McClure, reached the east coast of Banks Island by way of Bering Straits and the Arctic; there they left their ship frozen in the ice in Mercy Bay and thence made their way on foot to Delay Island, whence another vessel that had entered the Arctic from the east carried them to England; thus they were the first to make the Northwest Passage but not all of it by ship. To Captain Roald Amundsen, subsequent

discoverer of the south pole, belongs the distinction of having first sailed entirely through the passage. Entering the Arctic between Labrador and Greenland in 1903 in the little ship *Gjöa*, he reached Bering Straits two years later.

In April, 1790, word reached London that the Spaniards had committed depredations upon British commerce on the coast of northwest America and that they had seized the British trading post in Nootka Sound. Energetic protests were sent to Madrid, and preparations for war were made. In consequence the Spanish government offered restitution and recognition of equal rights to British subjects in those seas, reputed before to belong only to the Spanish crown. This in history is what is known as the "Nootka Controversy."

It was deemed expedient that an officer should be sent to Nootka to receive back, in form, a restitution of the territories on which the Spaniards had seized, and also to make a survey of the northwest coast from the thirtieth degree of north latitude towards Cook's River. The man selected for this task was Captain George Vancouver of the Royal Navy. His instructions provided, among other things, that he should pay particular attention to the examination of the supposed Straits of Juan de Fuca, said to be situated between 48° and 49° north latitude, and to lead to an opening through which the sloop *Washington* was reported to have passed in 1790, and to have come again to the northward of Nootka. Also, attention was to be given to the Archipelago of St. Lazarus, the existence of which was almost assumed upon the authority of a Spanish admiral named De Fonte, De Fonta or De Fuentes, and of a Mr. Nicholas Shapely, from Boston



CAPTAIN GEORGE VANCOUVER, R. N.

From portrait painted probably by Samuel F. Abbott, in the National
Portrait Gallery, London.

in America, who was stated to have penetrated through the archipelago, by sailing through a mediterranean sea in the coast of northwest America within a few leagues of the oceanic shores of that archipelago, where he was said to have met the Admiral.

George Vancouver, the officer selected for the performance of these tasks, was then about thirty-two years of age and was a native of Lynn in Norfolk. When about thirteen he joined the British navy and served as a midshipman under the celebrated explorer Captain Cook on both the Second Voyage, 1772-75, and the Third Voyage, 1776-80. On these voyages Vancouver acquired invaluable experience and also a knowledge of the region he was himself to explore, for in 1777 and again in 1778 Cook's expedition spent some months upon the northwest coast, sailing from the region of the present Oregon to beyond Bering Straits and discovering some of the chief landmarks.

After his return from the third voyage, Vancouver was made a lieutenant and saw service at various stations, particularly in the West Indies. His selection to command the expedition we are about to describe was undoubtedly due in large measure to his experience under Cook. He was, in addition, endowed with great executive ability and in the management of his expedition was a strict disciplinarian. His surveys of the North Pacific coast were worthy of the best explorer of any time. No other man under analogous conditions has given to the world a detailed survey of equal excellence of so many miles of intricate coast. His charts were those by which the coast was navigated for a century after his death. He was a modest, unselfish, generous man, and, though a strict disciplinarian, was

constantly watchful over the welfare of his men and saw that they received due recognition for the services rendered by them.

A new vessel of three hundred and forty tons burden was purchased and on being launched was named the *Discovery*. The *Chatham* armed tender, of one hundred and thirty-five tons, was ordered to be equipped to attend on the voyage to be undertaken. Both vessels were sheathed with copper, and both mounted a number of four-pounders and swivels. The crew of the *Discovery* numbered one hundred, with Zachary Mudge, captain; Peter Puget and Joseph Baker, lieutenants; and Joseph Whidbey, master. The *Chatham* was manned by forty-five men, with Lieutenant W. R. Broughton, commander; James Hanson, lieutenant; and James Johnstone, master.

The expedition sailed from Carrack Road on the 1st of April, 1791, and proceeded by way of the Cape of Good Hope, Australia, and New Zealand to Owhyee, the present Hawaii. Here they remained for seventeen days taking on fresh water and provisions and repairing the ship. On Tuesday, April 17, 1792, a year and seventeen days after leaving home, they reached north latitude $39^{\circ} 20'$, west longitude $236^{\circ} 8'$. Soon after midday they passed considerable quantities of drift wood, grass, and sea-weed; many skegs, ducks, puffins, and other aquatic birds were flying about them, and the color of the water announced their approach to land. At four in the afternoon they reached soundings at the depth of fifty-three fathoms of water with soft brown sandy bottom. Land was now discovered at a distance of about two leagues, on which the surf broke with great violence. The shore appeared straight and unbroken,

of a moderate height, with mountainous land behind, covered with stately forest trees, excepting some spots, which had the appearance of having been cleared by manual labor. This may be regarded as the end of the voyage to the northwest coast of America.

Vancouver Misses Columbia River

On Thursday morning, April 19, 1792, Vancouver's expedition, according to his reckoning, was in latitude $40^{\circ} 3'$, longitude $235^{\circ} 51'$. From here it may be said his survey of the northwest coast of America was commenced. Here they found immense numbers of whales playing about them. Most of them were of the species which in Greenland were called finners. In the afternoon they passed Cape Mendocino. This cape is said to have been discovered and named by Cabrillo in his expedition of 1542-43. The meteorological conditions southward of the cape are quite different from those northward. Fog is more prevalent southward and rainfall is heavier northward. The strong northwesterly winds of summer are less violent southward of the cape, which forms a partial lee for vessels working their way northward. The currents in the vicinity of this cape are irregular. The mountains at the back of the cape have a considerable elevation, and form, altogether, a high steep mass, which does not break into perpendicular cliffs, but is composed of various hills that rise abruptly and are divided by many chasms. The present lighthouse and buildings are situated on one of the western spurs about four hundred feet above the sea. Mendocino Bay, not mentioned by Vancouver, lies twenty-one miles northward from Point Arena.

From Cape Mendocino, the coast took a direction N. 13 E., and along this the expedition ranged at the dis-

tance of about two leagues. The coast passed on the afternoon of Sunday, the 22nd of April, seemed to be generally open with a sandy beach, but the evening brought them to a country of a very different description, whose shores were composed of rocky precipices with numberless small rocks and rocky islets extending about a mile into the sea; the most projecting part was by Vancouver named Rocky Point, which name it still retains. It is a bald point with cliffs about two hundred feet high, bordered by numerous rocks and ledges extending two hundred to three hundred yards off shore. It is covered with oak and scrub pine for a half mile back to the redwood forest. Through the oak growth project two rocky pinnacles about two hundred and fifty feet high. When abreast of Rocky Point, Vancouver discovered that the color of the sea suddenly changed from the oceanic blue to a very light river colored water, extending as far ahead as could be discerned. This gave him reason to suppose that some considerable river or rivers were in the neighborhood. If he had paid more attention to his instructions, he would have found that what gave him reason to suppose was a considerable river or rivers, was the entrance to Humboldt Bay, which is the first important harbor north of San Francisco.

In the afternoon of April 24, because of the condition of the tide, they were under necessity of coming to their first anchorage on the northwest coast of America, in thirty fathoms of water, with a bottom of black sand and mud, in latitude $42^{\circ} 38'$, longitude $235^{\circ} 44'$. To a low projection from the high rocky coast Vancouver gave the name of Cape Orford, in honor of his much respected friend, the noble Earl of that title. This name has been continued as Point Orford.

Soon after Vancouver had anchored near Cape Orford, natives from different parts of the coast visited the vessels. Vancouver says a pleasing courteous deportment distinguished these people. Their countenances indicated nothing ferocious; their features partook rather of the general European character; their color was a light olive; and besides being tattooed in the fashion of the South Sea islanders their skins had many marks, apparently from injuries in their excursions through the forests. None seen exceeded five feet six inches in height. They were tolerably well limbed, though slender in their persons; bore little or no resemblance to the people of Nootka; nor did they seem to have the least knowledge of the Nootka language. They seemed to prefer the comforts of cleanliness to the painting of their bodies; in their ears and noses were small ornaments of bone; their hair which was long and black, was clean and neatly combed, and generally tied in a club behind, though some among them had their hair in a club in front also. They were dressed in garments that neatly covered them, made principally of the skins of deer, bear, fox, and river otter; one or two cub skins of the sea otter were also observed among them. Their canoes, calculated to carry about eight people, were rudely wrought out of a single tree.

About three o'clock in the afternoon of April 25, the vessels passed within a league of Cape Blanco, and at about half that distance from some breakers that lie to the westward of it. It was found that this cape, was formed by a round hill on high perpendicular cliffs, some of which were white a considerable height from the level of the sea. This cape was discovered and named Cape Blanco in 1603 by Martin de Aguilar, a

Spanish navigator. Near it he thought he saw the mouth of a large river, which he named St. Inez, but afterwards it was known as the Rio de Aguilar. From Cape Blanco to the Columbia River, a distance of two hundred and eight miles, the coast is remarkably straight, and trends in a general north by west direction.

At eight o'clock in the morning of April 26, the vessels passed Cape Perpetua – so named by Captain Cook in 1778. Vancouver located it in latitude $44^{\circ} 12'$, longitude $236^{\circ} 5'$. It is nine miles northward from Heceta Head. It consists of two projecting points; the northern one, being the bolder, reaches a height of eight hundred feet in a short distance from the beach and one thousand feet in about three quarters of a mile. The rocky cliff forming the face of the northern point is reddish in color with a few rocks, awash at low water, close under its face.

They pursued their course northward and in the afternoon passed Cape Foulweather. Vancouver described it as a conspicuous promontory, almost as singular in its appearance as any they had seen along the coast. A high round bluff point projected abruptly into the sea, with a remarkable table hill situated to the north, and a lower round bluff to the south of it. It also was named by Captain Cook in 1778. It has a seaward face six and a half miles in length, consisting of rocky cliffs over sixty feet high.

On the morning of April 27, they were abreast of Cape Lookout. It is remarkable for the four rocks which lie off from it, one of which is perforated. It projects about one and a half miles at right angles to the coast, a narrow, rocky promontory four hundred and twenty-five feet in height at its seaward extremity. The southern face is nearly straight, with precipitous

cliffs, in which are numerous caves. The north side of the cape is clean and bold for the first mile, and then is much broken and marked by caves and several cascades.

Noon of April 27, brought them up with a very conspicuous point of land in latitude $46^{\circ} 19'$, longitude $236^{\circ} 6'$. Vancouver presumed it to be that which Meares "called Cape Disappointment, and the opening to the south of it, Deception Bay." This "very conspicuous point" is now charted as Cape Hancock or Disappointment. On this double naming hangs a very interesting story of historical discovery. Captain Bruno Heceta in July, 1775, discovered a bay with strong currents and eddies, indicating the mouth of a great river or strait in latitude $46^{\circ} 9'$, which but for the latitude the navigator would have identified with the Straits of Juan de Fuca, but which he now named Bahía de la Asuncion, calling the northern point San Roque and the southern Cabo Frondoso. It was subsequently called by the Spaniards Ensenada de Heceta, and was, of course, the mouth of the Columbia River between Capes Disappointment and Adams. Captain John Meares, on Sunday, July 6, 1789, rounded a promontory in about latitude $46^{\circ} 10'$, with great hopes that it would prove the Cape San Roque of Heceta; and so, indeed, it was, the bay being the mouth of the great river of the west. But Meares found breakers extending across the bay, which he named Deception, and the cape, Disappointment, and wrote: "We can now with safety assert that no such river as that of Saint Roc exists, as laid down in the Spanish Chart." Captain Robert Gray on May 10, 1792, "left Port Gray, where he was attacked by the Indians, and killed some of them, and next day passed over the bar which he had

been unable to enter, at the mouth of the great river. This was the Ensenada de Heceta, discovered in 1775 by Heceta, who named it Point San Roque and Frondoso; the Deception Bay behind Point Disappointment of Meares in 1789. Earlier in this year it had been seen by Gray himself and by Vancouver, but now it was entered by Gray for the first time, and was named the Columbia River, from the vessel's name, the northern and southern points being called respectively Cape Hancock and Point Adams."

Vancouver endeavors to excuse himself for not having discovered the Columbia River. He says: "The country before us presented a most luxuriant landscape, and was probably not a little heightened in beauty by the weather that prevailed. The more interior parts were somewhat elevated, and agreeably diversified with hills, from which it gradually descended to the shore, and terminated in a sandy beach. The whole had the appearance of a continued forest extending as far north as the eye could reach, which made me very solicitous to find a port in the vicinity of a country presenting so delightful a prospect of fertility; our attention was therefore earnestly directed to this object, but the sandy beach bounded by breakers extending three or four miles into the sea, seemed to be completely inaccessible until about four in the afternoon, when the appearance of a tolerably good bay presented itself. For this we steered, in the hope of finding a division of the reef, through which, should admittance be gained, there was great reason to expect a well sheltered anchorage; but on approaching within two or three miles of the breakers, we found them produced by a compact reef, extending from a low projecting point of land along

the shores to the southward, until they joined the beach to the north of Cape Disappointment."

Cape Disappointment, the north point at the entrance to Columbia River, is the only headland on the low sand beach that extends from Tillamook Head to Point Grenville, a distance of over eighty miles. The extreme southeastern point is marked by a lighthouse.

The Columbia, the great river thus narrowly missed by Vancouver, enters the ocean in latitude $46^{\circ} 15'$, and with its tributaries, drains a large and productive country. Below the cascades it flows through a canyon averaging five miles in width between the high cliffs on each side; of this width the river occupies about one mile, the rest being marsh, low land, and low islands. Near the mouth, the river becomes wider, and in some places is five miles across. It is navigable for deep-draft vessels to the Cascades, a distance of about one hundred and twenty-five miles; but as a rule they seldom go above the mouth of the Willamette, a distance of eighty-five miles from the sea. The commerce of the river, both foreign and domestic, is extensive. The exports are principally fruit, wheat, flour, lumber, and fish; the imports are coal, cement, fuel-oil, manufactures, and general merchandise.

On April 27, the expedition passed Cape Shoalwater and next day reached Point Grenville in latitude $47^{\circ} 22'$, longitude $235^{\circ} 58\frac{1}{2}'$. It was at this point that the Spaniards Heceta and Perez anchored, July 13, 1775. This is a broken, rocky promontory with nearly vertical, whitish cliffs over one hundred feet high. Numerous rocks extend for some distance off the point. This point was named by Vancouver after the Right Honorable Lord William Wyndham Grenville, son of George Grenville, an English statesman.

Noon of April 28, brought Vancouver in sight of land which he considered to be that which by Barclay had been named Destruction Island. He described it as being about a league in circuit, low and nearly flat on the top, presenting a very barren aspect, and producing only one or two dwarf trees at each end. A lighthouse and fog signal are now established on its southwestern point. This island has an interesting history. On July 14, 1775, Captain Bruno Heceta with Padre Sierra, Surgeon Davalos, Cristobal Revilla, and a few sailors landed in the vicinity of Point Grenville, erected a cross and took formal possession of the newly discovered country. Señor Quadra had anchored the schooner Señora a few miles further north near this island. He resolved to send a party ashore to obtain wood and water. Accordingly, six men, under command of the boatswain – Pedro Santa Anna, were sent to land in a boat. Some three hundred Indians were hidden in the woods near the landing and no sooner had the Spaniards left the boat than they rushed to attack them. Two of the crew sprang into the sea and were drowned, the rest were immediately killed and torn in pieces and the boat broken up for the nails in it. Quadra and some others desired to march with thirty men against the Indians to avenge the massacre, but a council of war decided that such an act would be unwise. Because of this catastrophe, the island was named Isle de Dolores, the Isle of Sorrows. In 1787, Captain Barclay changed the name to that of Destruction Island.

At four o'clock of April 29, Vancouver discovered a sail to the westward standing in for the shore. This was a great novelty to him for he had not seen any vessel except the Chatham during the preceding eight

months. The newcomer soon hoisted the American colors and fired a gun to leeward. She proved to be the ship *Columbia*, commanded by Captain Robert Gray, belonging at Boston, from whence she had been absent nineteen months. Believing this to be the same person who had formerly commanded the *Washington*, Vancouver desired him to bring to, and sent Mr. Puget and Mr. Menzies on board to acquire such information as would be of service in their future operations. On the return of the boat it was found that Captain Gray was in command of the *Washington* at the time conjectured by Vancouver. His relation to the voyage, however, differed very materially from that published in England. Captain Gray was astonished when told that he was reported to have sailed through the Straits of Juan de Fuca. He assured the officers that he had penetrated only fifty miles into the straits; that he found the passage five leagues wide; and that he understood from the natives that the opening extended to a considerable distance to the northward. The inlet he supposed to be the same that De Fuca had discovered, which opinion then seemed to be universally received by all modern visitors. He also informed them that he had been off the mouth of a river (the *Columbia*) in latitude $46^{\circ} 10'$, where the outset, or reflux, was so strong as to prevent his entering it for nine days.

While Puget and Menzies were making their visit to Captain Gray, Vancouver was admiring the most remarkable mountain they had seen on the coast of New Albion. He located it as being in latitude $47^{\circ} 38'$, and described it as being divided into a very elegant double fork, and its summit as being covered with eternal snow. It rose conspicuously from a base of lofty mountains, which likewise were covered with snow,

and which descended gradually to hills of moderate height, and terminated in low cliffs falling perpendicularly on a sandy beach. On the 10th or 11th of September, 1773, Captain Juan Perez saw a lofty mountain covered with snow in latitude $48^{\circ} 7'$ and called it Santa Rosalia. By later writers the mountain seen by these navigators is supposed to have been Mount Olympus. On the 4th of July, 1778, Captain John Meares, saw this mountain, located it as being in latitude $47^{\circ} 10'$, declared it to be fit as a home for the Gods, and named it Mount Olympus. It is the dominating peak of the Olympic Range and the Olympic Peninsula.

Having obtained from Captain Gray the desired information, Vancouver directed his course northward along the coast. In this connection he says: "The thick rainy weather permitted us to see little of the country, yet we were enabled to ascertain that this coast, like that which we had hitherto explored from Cape Mendocino, was firm and compact, without any openings into the mediterranean sea, as stated in latitude $47^{\circ} 45'$; *or the least appearance of a safe or secure harbour either in that latitude, or from it southward to Cape Mendocino; notwithstanding that*, in that space geographers have thought it expedient to furnish many." When it is remembered that in fact there were and are many safe and secure harbors between the points mentioned by Vancouver in the foregoing statement, one is forced to the conclusion that this statement is an unfortunate one and had better not have been made.

While at anchor in latitude $47^{\circ} 45'$, Vancouver found a constant current, without intermission, setting in the line of the coast to the northward, at an uniform rate

of near half a league per hour. They observed that as they directed their course along the coast, it continued to increase in height with numberless detached rocky islets, amongst which were some sunken rocks, extending in some places a league from the shore. As they passed the outermost of these rocks at the distance of a mile, they plainly distinguished the south point of entrance into the Straits of Juan de Fuca. The opposite side of the strait, though indistinctly seen in consequence of the haze, plainly indicated an opening of considerable extent. They now saw several villages scattered along the shore, whose inhabitants came off to the vessels for the purpose of trading.

About noon of April 29, the vessels reached the south entrance to the Straits of Juan de Fuca, which Vancouver understood the natives to distinguish by the name of "Classet." This point was named Cape Flattery by Captain James Cook, in 1778. In his Journal of his last voyage he says: "Between this island or rock, and the northern entrance of the land, there appeared to be a small opening, which flattered us with the hopes of finding a harbour. These hopes lessened as we drew nearer; and at last, we had some reason to think, that the opening was closed by low land. On this account, I called the point of land to the north of it Cape Flattery." By this name Vancouver, in a foot note, recognizes it, and by this name the point has been called since then. It is a bald, rocky head, with cliffs one hundred and twenty feet high, rising to an elevation of one thousand feet one mile back from the beach. Numerous rocks and reefs border the cliff eastward and southward of the cape. Fuca Pillar stands one-fourth of a mile from the western point of the cape. It is a rocky column one hundred and forty feet high, and

sixty feet in diameter, and leans slightly to the north-westward.

Tatooche Island lies three-eighths of a mile north-westward from Cape Flattery. It received its name in honor of the great Chief Tatooche who visited Captain John Meares when he entered the Straits of Juan de Fuca. It is one hundred and eight feet high, flat topped and bare. The main island is about one-fourth of a mile in diameter, with three smaller ones and several reefs awash close to it on its northwestern face. A reef, the outer rock of which is usually awash, extends one-fourth of a mile westward. The Cape Flattery lighthouse and fog signal and several buildings are situated on the western end of the island. There are also a storm-warning display and reporting station and a wireless station on this island. The passage between the island and cape is a very dangerous one.

Vancouver with the *Discovery* followed the *Chatham* between Tatooche's Island and the Rock Duncan, hauling to the eastward along the southern shore of the Straits of de Fuca. As they proceeded along the shore Vancouver's vessels passed the Indian village of Classet, which was situated about two miles within Cape Flattery. This village appeared to be extensive and populous. The inhabitants of it were civil, orderly, and friendly. The few who came off resembled, in most respects, the people of Nootka. Their persons, garments and behavior were similar; some difference was observed in their ornaments, particularly in those worn at the nose; for instead of the crescent, generally adopted by the inhabitants of Nootka, these wore straight pieces of bone. Their canoes, arms, and implements were exactly the same. They spoke the same language. These were the Makah Indians, the

descendants of whom still inhabit that section of the sea coast. About two miles beyond the village the ships passed a small open bay, with a little island lying off its eastern side. At seven o'clock in the evening they came to anchor in twenty-three fathoms of water, on a bottom of beach sand and mud about a mile from the south shore. This was about eight miles within the entrance of the supposed Straits of de Fuca.

The "small open bay" which Vancouver passed is now known as Neah Bay. This bay has an interesting history. It was discovered by Captain Alfarez Quimper, August 1, 1790, and excepting Nootka, was the only port of the Northwest actually occupied by the Spaniards. Quimper named it Port Nunez Gaona. In March, 1792, the authorities of Mexico, besides sending Señor Quadra to Nootka to meet Vancouver, dispatched Lieutenant Salvador Fidalgo to Nunez Gaona to fortify and hold the port for Spain. In the autumn of the same year, Quadra ordered the port abandoned and moved Fidalgo and all the property to Nootka, where the Lieutenant was to command until further instructions were received from the government of Spain and Great Britain. By the fur traders the port was called Poverty Cove. Captain Charles Wilkes in 1841 named it Scarborough Harbor. Neah Bay is the Indian name and by this it is now known and charted. It is located five miles eastward of Cape Flattery and is used extensively by vessels in southerly and westerly voyages when the wind is too severe to venture outside. Its proximity to the strait and ease of access at all times makes this anchorage very valuable; there is usually some swell, especially in northerly or westerly weather, when it is rather uncomfortable.

Vancouver's instructions directed him to pay a particular attention to the examination of the supposed Straits of Juan de Fuca, but he was not required to determine whether there was such a man as Juan de Fuca, and whether he narrated to Michael Lok the story of his discovery of the strait which by Captain John Meares was named in his honor. Notwithstanding this he says: "By my having continued the name of De Fuca in my journal and charts, a tacit acknowledgement of his discoveries may possibly, on my part, be inferred; this, however, I must positively deny, because there has not been seen one leading feature to substantiate his tradition; on the contrary, the sea coast under the parallels between which opening is said to have existed is compact and impenetrable; the shores of the continent have not any opening whatever, that bears the least similitude to the description of De Fuca's entrance; and the opening which I have called *the supposed straits of John de Fuca*, instead of being between the 47th and 48th degrees, is between the 48th and 49th degrees of north latitude, and leads not into a far broader sea or mediterranean ocean. The error of a degree in latitude may, by the advocates for De Fuca's merits, be easily reconciled, by the ignorance in those days, or the incorrectness in making such common astronomical observations; yet we do not find that Sir Francis Drake, who sailed before De Fuca, was liable to such mistakes."

It occurs to me that Vancouver was unfortunate in his reference to Sir Francis Drake. Most certainly his account of his return voyage because of the uncertainty of its latitude, has caused much trouble to those who have studied it. Concerning it, Bancroft, after making an exhaustive examination of the authorities

says, "From the marked difference in writers who were contemporaries with Drake, and whose good faith in this matter is not questioned, the reader will perhaps conclude with me that Drake's companions in their notes and verbal statements did not agree respecting the northern limit of the voyage; that observations in the north had been few and contradictory; that possibly the regular diary, if any had been kept, was lost, and memory alone depended on; and at any rate, that the truth cannot be known respecting the latitude of the freebooter's landfall."

It also occurs to me that Vancouver after having missed finding the mouth of the Columbia River, Gray's Harbor, and divers other openings in the coast before reaching the Straits of Juan de Fuca, might well have not written the paragraph under consideration. In addition to this, it will be observed in following his account of his explorations, that he, with all his astronomical appliances and the added astronomical learning of two centuries, made mistakes of latitude which were more erroneous than these of De Fuca. Moreover, it will be observed that he frequently apologized for like errors made by other navigators; but De Fuca must be disbelieved, because he made an error of perhaps not more than half a degree of latitude, for it will be recalled that De Fuca was not exact in fixing his latitude. He says "that he followed his course in that voyage west and northwest . . . until hee came to the latitude of fortie seven degrees, and there finding the land trended North and North-east, with a broad inlet of sea, between 47 and 48 of latitude, he entered therein."

Vancouver's survey was made by order of the Lords Commissioners of the Admiralty. The fourth edition

of the *British Columbia Pilot*, including the coast of the United States and British Columbia from Cape Flattery and Juan de Fuca to Cape Caution, etc., was published by order of the successors of the same Lords Commissioners of Admiralty in 1913, that being one hundred and twenty-one years after the order to Vancouver. Both orders were official and ought to receive like consideration. The latter says: "Juan de Fuca straits, formed between the south coast of Vancouver Island and the mainland of the state of Washington, was discovered in 1592 by a Greek Mariner, Apostolos Valerianos, commonly known as Juan de Fuca, a native of Cephalonia, employed by Spain; and rediscovered by Barkley, an Englishman, in the service of the Austrian East Indian Company in 1787."

Another objection made to De Fuca's story is that he claimed "that at the entrance of this said strait, there is on the northwest coast thereof, a great headland or island with an exceding high pinnacle, or spiral rocke, like a pillar thereupon." In reference to this, Rear Admiral T. S. Phelps, in his *Reminiscences of Seattle, Washington Territory, and the U. S. Sloop-of-War Decatur, during the Indian War of 1855-56*, says: "It apparently applies to the western entrance to the strait under consideration, and the locality of the high pinnacle or spired rock, is naturally ascribed to a position on the northwest side of the entrance near Vancouver's Island, where, to all observers, an object of this description never did exist. All doubt on this subject is at once removed by applying the paragraph in question to the western entrance of Johnstone's Strait, or rather to the Goletas Channel at the northwest end of Vancouver's Island, where it properly belongs, and then on Mount Lemon, near the southwest end of

Galiano (now the Nigei) Island, a remarkable promontory, twelve hundred feet high, we find a solution of the difficulty, and that at the entrance of said strait – calling the various bodies of water separating Vancouver's Island from the mainland as one continuous strait – ‘There is on the northwest coast thereof a great headland or island with an exceeding high pinnacle or spiral rock like a pillar thereon’ – which fully answers the description, and reconciles the paragraph with the truth as we find it in nature.” It seems to me that the Admiral's solution of a seeming difficulty is a reasonable one, and that “the various bodies of water separating Vancouver's Island from the mainland” may be called one continuous strait. In fact, they, with like bodies of water, are now well known as the “Inside Passage to Alaska.”

De Fuca says that “hee entered thereinto, sayling therein more than twentie dayes, and found that land trending still some time northwest and northeast, and north, and also east and southeastward, and very much broader sea than was at said entrance, and that he passed by divers islands in that sayling.” Also he said, that “he went on land in divers places, and that he saw some people on land, clad in beasts' skins; and that the land is very fruitful, and rich of gold, siluer, pearle, and other things, like Nouva-Spania.” And also he said, “that he being entered thus farre into the said strait, and being come into the North Sea already, and finding the sea wide enough every where, and to be about thirtie or fortie leagues wide in the mouth; he thought he had well discharged his office, and done the thing he was sent to doo.” This quaint description of De Fuca's voyage, if we adopt the Admiral's explanation of it, is a fair counterpart of Vancouver's voyage

in 1792 to the entrance to Queen Charlotte's Sound, and of what he came in contact with and saw – in other words, the waters that would be voyaged through and that would be seen in making such a "sayling." In fact, the strait, as it is now known, is the connecting channel between the Pacific Ocean and the inside passages, extending southward to Puget Sound, and northward to the inland waters of British Columbia and southeast Alaska. It extends eastward about fifty miles to Race Rocks, with an average width of over ten miles. Eastward of Race Rocks it extends northeastward for thirty miles with an average width of eighteen miles, connecting northward with the Strait of Georgia through the channels of Washington Sound, and connecting southward through Admiralty Inlet, which enters in its southern part with Puget Sound. Within these limits, extending from Commencement Bay northward to Queen Charlotte's Sound there are two extensive archipelagoes, with innumerable channels and inlets upon the shores of which are located many Indian villages, inhabited by Indians, descendants of those whom De Fuca saw.

On the morning of April 30, Vancouver weighed anchor, and with a favorable wind, steered to the east along the southern shore of the Straits of Juan de Fuca. At noon their latitude was $48^{\circ} 19'$. About five o'clock in the afternoon, a long low sandy point of land was observed projecting from the craggy shores into the sea, behind which was seen the appearance of a well sheltered bay; and at seven they hauled around it, and having turned up a little way into the bay they anchored on a bottom of soft sand and mud in fourteen fathoms of water. The low sandy point of land, from

its great resemblance to Dungeness in the British Channel, Vancouver called New Dungeness.

Vancouver makes no mention of what is now known as Port Angeles, situated fifty-six miles eastward of Cape Flattery. This is somewhat surprising for he says the day was clear, the sea smooth, and that he steered at the distance of about two miles from the southern shore. The entrance to it is eleven miles southeastward from Race Rocks lighthouse. It is easy of access by the largest vessels, and is frequently used by them when weather-bound, and awaiting orders for a tug. The prominent feature in approaching it is the lighthouse and buildings on the eastern point of Ediz Hook. The town of Port Angeles, situated on the southern shore, is a place of some importance.

On the afternoon of April 30, Vancouver observed to the north and northeast of New Dungeness high land, like detached islands, amongst which, Third Lieutenant Baker discovered a lofty mountain northeast of Bellingham which in compliment to the lieutenant was by Vancouver called Mount Baker. From New Dungeness this mountain is a very conspicuous object, and it dominates the San Juan Archipelago. It is an extinct volcano whose many native names Pukhomis, Puksan, and Kulshan all mean "the fire mountain." Galiano and Valdes, the Spanish navigators, called it Mount Carmelo. It has an altitude of ten thousand, eight hundred and seventy feet. According to Indian tradition, it has been in eruption many times during the past century. An eruption took place in 1852, when a great body of lava flowed down its side. The first ascent of it was made from the west side by Edmund T. Coleman, an English landscape artist and Alpine

climber, in August, 1868. Mr. E. S. Ingram with a party made a like ascent, July 3, 1891, and found the summit to be an elliptical plateau, a third of a mile in length, with a snow filled crater, and that a small crater one thousand feet below was filled with sulphur crystals and sulphurous gas and that steam in clouds was blowing from it. The ascent of the mountain is now frequently made by climbing parties from Bellingham, and the annual race to its summit, inaugurated in recent years by a Bellingham Mountain Association, is doing much to extend a better knowledge of it.

On the low land of New Dungeness Vancouver found a number of very tall straight poles, supported by spurs from the ground. Their appearance induced the opinion that they were the uprights for stages on which Indians might dry their fish; but on a nearer view this seemed improbable, as their height and long distance from each other would have required spars of a greater size to reach from one to the other, than the substances of the poles was capable of sustaining. Poles like these were found at various other places. At Port Townsend he found on one of the low points projecting from the eastern shore two of them set in the ground, about fifteen feet high, and rudely carved; on the top of each was stuck a human head recently placed there. The hair and flesh was nearly perfect, and the heads appeared to carry the evidence of fury or revenge, as, in driving the stake through the throat to the cranium, the sagittal, with part of the scalp, was borne on their points some inches above the rest of the skull. Between the stakes a fire had been made, and near it some calcined bones were observed, but none of these appearances enabled Vancouver to satisfy himself concerning the way in which the bones had been disposed

of. To the north on a very long sandy spit seventeen long supported poles were seen like those seen at New Dungeness. Though these afforded an opportunity of examining them, they did not contribute the least instruction concerning the purpose for which they were intended. They were uniformly placed in the center of a low sandy spit, at the distance of about eighty yards from each other; and it seemed that they were required to be of certain definite heights, although not all equally high. They were generally about six inches in diameter at the bottom, and perfectly straight; and when too short, a piece was added, which was very neatly scarfed on; the top of each terminated in two points like a crescent, or rather like the straight spreading horns of an ox. The tallest of these poles was supposed to be about one hundred feet and the shortest not so high by ten or fifteen feet. Between several of them, large holes were dug in the ground, in which were many stones that had been burnt, which gave the holes the resemblance of the cooking places in the South Sea Islands. There was, however, no appearance of any recent operations of that kind. Vancouver was not able to determine whether the poles had been erected for a religious, civil, or military purpose; that he "left to some future generation." Their purpose is still undetermined.

On May 2, Vancouver weighed anchor at New Dungeness and steered for Port Discovery, which had been discovered the preceding day, and moored in it about noon in thirty-four fathoms of water, about a quarter of a mile from the shore. He found that the entrance to this harbor was formed by low projecting points, extending on each side from the high woodland cliffs which in general bounded the coast.

It was at Port Discovery that Vancouver made his first encampment on shore, which was very commodiously situated close to the north side of the stream or brook which flows into the port. Here the tents, observatory, and instruments were sent on shore, and guarded by a party of mariners. On Thursday morning May 3, they set seriously to work on board and on shore. The sail-makers were repairing and altering the sails, coopers inspecting the casks, gunners airing the powder, and parties cutting wood, brewing spruce beer, and filling the water casks; whilst those on ship board were as busily employed in necessary repairs about the rigging, getting the provisions to hand, clearing the main deck and after holds for the reception of ballast, the carpenters stopping leaks about the bows, and the rest assisting the caulking of the Chatham's sides.

Being desirous of obtaining further knowledge of the Straits of Juan de Fuca, Vancouver directed the Discovery's yawl and launch with the Chatham's cutter, properly armed and supplied with stores for five days, to be in readiness early Monday morning May 7, to make the proposed survey. The start was made accordingly. Mr. Menzies, with two of the young gentlemen, accompanied Vancouver in the yawl. Mr. Puget commanded the launch, and Mr. Johnstone the Chatham's cutter. Having rowed against a strong tide along the shore about two or three leagues to the north-east from the entrance of Port Discovery, they rounded a low projecting point. This on Vancouver's chart is noted as Point Wilson, and this name it still retains. High yellow cliffs, surmounted by a thick forest, extended from Port Discovery to Port Townsend, and these attained a height of four hundred to five hundred

feet midway; they were very steep, and broke down suddenly under a hill two hundred and fifty feet at about four cables westward of Point Wilson. This point stretches towards Admiralty Head, and between them is the entrance to Admiralty Inlet. The point is formed of sandy hillocks covered with coarse grass, and on the extremity of it is a lighthouse, from which is exhibited, at an elevation of fifty-three feet above high water, a light visible thirteen miles in clear weather. Telegraph cables are landed on the eastern side of the point.

Extending their survey along the beach, they found another point similar to that which they had passed, and distant from it about two miles. On Vancouver's chart this point is named Point Hudson, and it still retains that name. Why it and Point Wilson were so named is not stated. Point Hudson is on the western shore of Port Townsend, about one and three quarters of a mile southeastward from Point Wilson, and is low and sandy. Its extremity is marked by a light. On the high land back of the point is a wireless telegraph station, and in the depression between that hill and the summit of Point Wilson are the buildings of a military post, in front of which is a wharf for landing supplies. Submarine telegraph cables are laid eastward from this wharf. From this point a very spacious inlet presented itself to Vancouver, to which he gave the name of Port Townshend (now known as Port Townsend) in honor of George Townshend the noble marquis of that name.

The town of Port Townsend, known as "The Key City," is situated immediately southward and westward of Point Hudson. It is the chief port of entry for Puget Sound and the one in most frequent use. The

depths at the wharves are ample. Here are found all the modern advantages of urban life. Its municipal water system supplies the purest water by gravity from the Olympic Mountains. The city is provided with a complete sewerage system, banks, theatres, hotels, churches, school houses, gas and electric plants for lighting, heat, and power. It has three parks and play grounds for the enjoyment of its people, and these have been chosen with the greatest wisdom and discernment as to the pleasure loving people in their different moods. Chetzemaka Park, named in memory of a friendly Indian chieftain, former benefactor of the pioneers of the city during the last Indian war, is easily accessible. The frontage of this park on the waters of Admiralty Inlet is a protected bight, where the children may play in the salt water, which leaves its stretch of shingle and sand with immunity from dangerous undertow. The Lucinda Hasting Park, which was given to the city in memory of a reverend matron of pioneer days, occupies a nook in "Happy Valley" with the calm waters of a small lake to reflect its peaceful setting.

The residence portion of this city occupies a prominence, with a gentle slope from the land side and commanding scarfed bluffs, with a most magnificent outlook on the water side. The business district occupies the lower levels on the waterfront, with ample room for expansion to meet the requirements of an increasing population. The outlook from the city is most inspiring. To the northwest across the roadstead of the Straits of Juan de Fuca, the rugged shores of Vancouver Island may be seen; to the east, the silent white peaks of the Cascades; Mount Baker, the magnificent, and Mount Rainier, the lofty, as sturdy sen-

tinels at either end, are ever in sight, and to the west the rock-ribbed Olympics with their mantle of eternal snow, lift their heads into the clouds of the upper air, thus signaling voyagers to their unexplored mysteries. Across Admiralty Inlet is Whidbey Island with its strikingly peculiar gray marrow-stone banks.

Mount Rainier

It was on Monday, May 7, 1792, that Vancouver from Port Townsend saw "a very remarkable high round mountain, covered with snow." This he distinguished by the name of Mount Rainier, after his friend Rear Admiral Rainier. Peter Rainier, the man thus honored, was Commander-in-chief of the East India station from 1794 until 1804. During that time he assisted in the capture of several ports yielding immense booty, his share of which made him a very rich man. In the Trafalgar promotions of November 9, 1805, he was promoted to the rank of Admiral of the Blue. He was elected to Parliament for Sandwich, in May, 1807. He died at his house on Great George Street, Westminster, April 7, 1808. He was a bachelor. By his will he left one-tenth of his estate, proved at two hundred and fifty thousand pounds, toward the extinguishment of the national debt.

A determined effort has been made to change the name of Mount Rainier to Mount Tacoma. The United States Geographic Board has twice been petitioned to make such a change. The last of these petitions was presented to it in 1917. In a statement by C. Hart Merriam before the Board at that time, he said: "The advocates of the name Tacoma claim that the proposed change is necessary in the interests of 'justice to the mountain.' The logic of this claim is hard to find; on the other hand, it may be truthfully said that the name Rainier should be retained in justice

to its discoverer, in justice to the science of geographic names. For more than one hundred years it has been engraved on every important map of western North America, and for the same period has appeared in the geographies, atlases, histories, and other documents relating to the Pacific coast, no matter where published, whether in Canada, England, France, Germany, Italy, Russia, Holland, Spain, Arabia, or the United States. No geographic feature in any part of the world can claim a name more firmly fixed by right of discovery, by priority by international usage, and by the conspicuous place it holds on the official charts of the civilized nations of the earth." The Geographic Board in both instances refused to change the name, and it would seem that it acted wisely.

The agitation for the change of the name Mount Rainier to Mount Tacoma originated with the citizens of the city of Tacoma, who claim that long before the time of Vancouver's discovery, the Indians within sight of the summit of this pre-eminent peak called it Tak-ho-mah. They claim that the word Tak-ho-mah means plenty of food or nourishment; and hence, a woman who had plenty of nourishment in her breast was called "Takhomah Sladah," or the "motherly woman," and that in the course of time the nourishing breast of a woman was called "Takhomah" because it furnished plenty of food for the young. The word as applied to the mountain means that the earth is their mother, for she feeds them, and that the round snow-capped mountain, which resembles the breast of a woman, gives them drink and overflows and makes the grass grow rich from the white water which flows from her. There is much significance in this interpretation of the word Takhomah, for eight glaciers, namely, Cowlitz, Em-

mons, White River, Carbon, Bailey-Willis, Puyallup, and Nisqually, furnish a supply of water for the Cowlitz, White, Carbon, Natches Tietan, Des Chutes, Chehalis, Puyallup and Nisqually rivers. Edna Dean Proctor in this connection appropriately makes the mountain say:

"I am Tacoma, Monarch of the Coast!
Uncounted ages heaped my shining snows;
The sun by day, by night the starry host,
Crown me with splendor; every breeze that blows
Wafts incense to my altars; never wanes
The glory of my adoring children boast,
For one with sun and sea Tacoma reigns.
Tacoma – the Great Snow Peak – mighty name
My dusky tribes revered when time was young!
Their god was in avalanche and flame –
In grove and mead and songs my rivers sung,
As blithe they ran to make the valleys fair –
Their Shrine of Peace where no avenger came
To vex Tacoma, lord of earth and air."

Mount Rainier is located in the Rainier National Park, which is eighteen miles square, with an area of two hundred and seven thousand, three hundred and sixty acres, and it lies wholly within the Rainier National Forest Reservation, which covers an area of two and a quarter million acres of land. It stands in the greatest stretch of primeval forest in the United States. The summit of the mountain, with an altitude of fourteen thousand, four hundred and eight feet, is about one and one-half miles southeast of the center of the park.

The first explorers to climb this mountain were compelled to make their way from Puget Sound through the dense growth of one of the world's greatest forests, over lofty ridges and deep canyons, and across perilous

glacial torrents. The hardships of the climb to the timber line were more formidable than the difficulties above it.

The conditions of those earlier days have changed. On Thursday morning, August 10, 1911, I was at Tacoma, visiting Judge Miles Clifford. We were up at six o'clock and had breakfast at seven, and then started for Mount Rainier by way of the Tacoma Eastern Railroad to Ashford. At Kapowsin, we passed Electron, the site of the immense plant which turns the energy of the Puyallup River into the power that supplies the entire street-railway systems of Seattle and Tacoma. After passing lakes Kapowsin and Chop, the road began the ascent through the rugged canyon of the Nisqually River, which for four miles wound its way,

"Where the mountain wall
Is piled to heaven, and through the narrow rift
Of the black rocks, against whose feet
Beats the mad torrent with perpetual roar;
Where noonday is as twilight, and the wind
Comes burdened with the everlasting moan
Of forests and far-off waterfalls."

At La Grande on the Nisqually River we crossed a magnificent mountain thoroughfare bridge built by Pierce County and the state of Washington to connect with the government road through the National Forest Reservation. Here the city of Tacoma has constructed its hydro-electric power plant, which of its kind is the finest municipal plant in the world. The water is taken from the river three miles above this point and is brought through a tunnel to the edge of the canyon directly opposite La Grande, where it is carried in a steel pipe over a steel truss bridge four hundred feet above the river.

We arrived at Ashford at noon. There we left the train and took an automobile bus to the National Park Inn. This was the beginning of many new experiences and wonderful revelations of the glory and grandeur of this mountain region. A splendid road built by the National Government winds through Succotash Valley and penetrates a primeval forest of giant trees, past the ranches of those who have made their homes on the mountain side; frequently crossing deep ravines and bounding brooks on well-constructed bridges; through green glades walled and roofed by masses of heavy foliage edging along the side of canyons which rise from the depths below, curving about the base of mighty peaks, until we came to the National Park Inn and Longmire's Cabins. This road at that date was extended to Narada Falls, but since then it has been completed to Paradise Valley. A rustic entrance and lodge has been constructed at the boundary line dividing the National Forest Reservation from the Rainier National Park. Here everyone passing through the entrance is required to register his or her name. We had dinner at Longmire's Cabins. The senior Longmire came to this place in 1861 and entered an eighteen acre claim upon which he thought were located mineral paint springs. The springs are of no value for that purpose but are valuable for their medicinal qualities.

Upon arrival at Longmire's we found Judge Clifford's son Ray waiting with three mountain ponies, Billy, Jimmy, and Mike, and ready to act as our guide; he was the first guide to conduct a party of tourists during the night to the summit of the mountain, and, of course, we felt that we were safe under his guidance. We left Longmire's at 3:30 P. M. and arrived at Paradise Valley Camp at 6:10. In making the ascent we

traveled the pony trail which follows the course of the Paradise River, passing Carter Falls, Madcap Falls, Washington Torrents, and Narada Falls, the latter having a sheer drop of one hundred and eighty-five feet. Paradise Valley, or Park, as it is sometimes called, is located six thousand feet above sea level at the snow line of the mountain and about eight thousand four hundred feet below its summit. We were met at the Reece Camp by Jimmy Reece and his dog "Bing." Jimmy, who was the first and only child that had been born at the camp, now had grown old and large enough to be its hostler.

After supper I was introduced to Mr. P. B. Van Trump, who with General Hazzard Stevens made the first ascent of the mountain to its summit, August 17, 1870. I was much interested in listening to his account of that ascent, which was begun at Longmire's with an Indian guide named Sluiskin. Van Trump told me about the difficulties they had to meet and overcome in making the ascent to the snow line. The ascent from Paradise Valley to the summit was made from the south side of the mountain. Van Trump and Stevens wanted Sluiskin to go with them. He first treated the matter of their making the ascent as a joke, but when they gave him to understand they were in earnest and were going to make the attempt, he became very serious, and begged them not to do it, saying to them that there was an evil spirit up there who would certainly destroy them. When they started, with tears in his eyes, he bade them good-bye and said that he would wait two days for their return and then he would go back and tell his people that they had been destroyed by the evil spirit. When they returned, he at first hesitated to believe that it was they but when convinced that there

was no mistake about their identity, he was overjoyed and embraced them fondly. When they got to the summit, they found that the mountain had been an explosive volcano which threw out volcanic ash and not lava and that the crater of the principal peak was about one mile in circumference. They spent the night in the crater and were kept comfortably warm by the steam which was emitted from it.

In reference to the name of this mountain Van Trump is quoted by a correspondent in the *American Anthropologist*, of January, 1892, as saying: "The first Indian I heard pronounce the name of the mountain was old Sluiskin, who guided General Stevens and myself to the snow line when we made the first ascent to the summit, in 1870. Sluiskin's pronounciation, as near as I can represent it by letters, was Tah-ho-mah, and in his rendering of it there was, besides its music, an accent of awe and reverence, for Sluiskin was very imaginative and superstitious about Tahoma, believing that its hoary summit was the abode of a powerful spirit, who was the author of its eruptions and avalanches, and who would visit dire vengeance on any mortal who would dare to invade (if that were possible) his dread abode. When Stevens and I were encamped at the foot of the snow line we would often be awakened by the thunder of falling rocks or the deep thud of some avalanche. At such times Sluiskin would start from his blanket and repeat a dismal, dirge-like song as though he would appease the mountain spirit. Mishell Henry, another old Indian guide to the two-named mountain, prides himself in giving its true name. He has several times drilled me in pronouncing it, always smiling gravely and dignified at my ineffectual attempts to give his deep chest notes. Henry was the first

to mark out the present route to the snow line, and even ascended it for two miles without leaving the saddle. He guided our party (the Bayley party) in 1883, and himself ascended to the eight thousand foot level. Beyond that nothing could tempt him, for beyond, in his view, lay danger, folly, rashness; for even Henry, who is intelligent, and much more of a philosopher than the rest of his tribe (the Klickitats) associates the sublime summit of Tahoma with awe, danger, and mystery."

The next morning we were up at 3:40 and made the descent in three hours by way of the improved highway from Narada Falls. The recollection of that morning will never be forgotten. From Paradise Valley at that hour of the morning the mountain appeared only as an uncertain bulk shadowed upon the night. Then came a surprise. Gradually the east, beyond the great hills, showed a faint silver glow. Silhouetted against the dim background, the profile of the peak grew definite with no other warning, when suddenly from over Sluis-skin Falls the moon shot forth, huge, majestic, and gracious, flooding the lower world with brightness. Clouds and mountain ranges alike shone in glory.

As we came down we stopped at Narada Falls. The name of these falls is an East Indian word meaning "peace." The name was given to them many years ago by a party of Theosophists who visited them. Our next and last stop was made at the bridge which crosses the Nisqually River. From this point a fine view was had of the Nisqually Glacier. Though much shrunk since the epoch when it filled the whole canyon, the glacier is still a vast river of ice, and its front, seen several hundred yards above the bridge, rises several hundred feet. In 1905, Prof. J. N. Le Conte of Berkeley, California, established the fact that this glacier

has an average downward movement in summer of sixteen and two-tenths inches a day. He also determined the fact that the movement of the glacier is greater at the center than on the sides, and greater on the convex side of a curve than on the concave side. The measurements were taken by running a line from one lateral moraine to the other with a transit, setting stakes across the glacier at short intervals and ascertaining the advance they made from day to day. It has been estimated that in twenty-five years this glacier has retreated fully one thousand feet.

No one can visit Mount Rainier without being impressed with its wild flowers. In *Our National Parks*, John Muir says: "Of all the fire-mountains which, like beacons, once blazed along the Pacific Coast, Mount Rainier is the noblest in form. Its massive white dome rises out of its forests, like a world by itself. Above the forests there is a zone of the loveliest flowers, fifty miles in circuit and nearly two miles wide, so closely planted and luxuriant that it seems as if Nature, glad to make an open space between woods so dense and ice so deep, were economizing the precious ground, and trying to see how many of her darlings she can get together in the mountain wreath – daisies, anemonies, columbines, erythroniums, larkspurs, etc., among which we wade knee-deep and waist-deep, the bright corollas in myriads touching petal to petal. Altogether this is the richest sub-alpine garden I have ever found – a perfect floral elysium."

I made a second ascent of Mount Rainier from Longmire's to Paradise Hotel, Sunday, August 4, 1918. I found conditions much changed since I was there in 1911. The auto road had been completed to Paradise Valley. It is a wonderful piece of engineering and

road construction. It was constructed under the direction and supervision of the celebrated engineer Eugene Rickensecker. I was told that the distance by trail from Longmire's to the hotel at Paradise Valley is five miles; by the auto-road it is fourteen miles. In many places the roadway has been hewed out of the solid rock, and has a sheer downward look of a thousand feet or more. From Longmire's to the Nisqually bridge the roadway is wide enough for three automobiles to pass easily; from there to Paradise Hotel it is only wide enough for one automobile. Travel over the roadway is under the direction and control of the United States Department of the Interior. Its management is by telephone, from Nisqually bridge to the hotel. Travel is one way at a time—no passing of automobiles is permitted. In this way collisions are avoided. The Sunday I was at the mountain, four hundred and forty-two automobiles passed over the roadway up the mountain by two o'clock in the afternoon.

The Longmire's Cabins, at which I stopped in 1911, had been supplanted by a large well-conducted hotel. A very large and elegantly furnished hotel had been built at Paradise Valley with a dining-room seating capacity of five hundred persons. This hotel had been built of timber from the Silver-forest—a tract of land which was burned over about thirty-five years ago. Trees in this forest, which are seen on the way up to Paradise Valley, stand as gray signals of destruction occasioned by the fire. Strange to say the trees have not decayed, but become so well seasoned, that when cut and worked into lumber they take a polish equal to that of mahogany. Not only has the hotel been erected

with timbers taken from this forest, but also the tables and seats have been manufactured from it. The effect is wonderfully beautiful. The ridge of the building must be at least fifty feet high, but a photograph taken of the building in winter time shows it almost entirely covered with snow. Our chauffeur told me that in the spring of 1918 he saw the snow so deep in Paradise Valley that it covered the tree tops.

Mount Rainier in shape is not a simple cone, tapering to a slender, pointed summit. It is rather, a broadly truncated mass resembling an enormous stump with spreading base and irregularly broken top. Its life history has been a varied one. Like all volcanoes, Rainier has built up its cone with the materials ejected by its own eruptions. At one time it attained an altitude of not less than sixteen thousand feet, if one may judge by the steep inclination of the lava and cinder layers visible in its flanks. Then a great explosion followed, that destroyed the top part of the mountain, and reduced its height by some two thousand feet. This left it beheaded, and with a capacious hollow crater, surrounded by a jagged rim. Later this great cavity, was filled by two small cinder cones. Successive feeble eruptions added to their height until at last they formed together a low rounded dome which now constitutes its summit. That it should retain so much of its internal heat is not surprising in view of the recency of its eruptions. It is known to have been active at intervals during the last century, and actual records exist of slight eruptions having taken place in 1843, 1854, 1858, and 1870. Indian legends mention a great cataclysmal outburst at an earlier period. At present it may be regarded as quiescent. The steam jets in the crater at

the summit, as well as the hot springs at Longmire Springs, attest the continued presence of subterranean fires within the mountain. It is claimed, however, that no apprehension need be felt as to the possibility of an early renewal of its activity.

Puget Sound

On Wednesday morning May 9, Vancouver found himself in a very fine cove near the south extremity of a narrow shoal passage through which Mr. Johnstone had passed from Port Townsend. While detained in it by unfavorable weather, some of the young gentlemen in their excursions found several oak trees, not exceeding three or four feet in circumference. "In consequence of this valuable discovery, the place obtained the name of Oak Cove" and is now charted as Oak Bay.

Having determined not to depart from the continental boundary, the western arm of Admiralty Inlet was the first object of Vancouver's examination. He entered it on May 10, and by the 11th at noon had reached Hazel Point, which was so named "in consequence of its producing many of those trees." This point he found to be situated due south of the observatory in Port Discovery, in the latitude of $49^{\circ} 39'$. At Hazel Point he found that the channel divided into two branches, one taking a direction nearly due north, now known as Dabop Bay, and the other southwest. The northern arm was found to terminate at a distance of about seven miles in a spacious basin where bottom could not be found with seventy fathoms of line. Dabop Bay is the largest inlet in Hood Canal, and extends about nine miles in a northerly direction westward of Oak Head, Toandas Peninsula, parallel to the canal. Quilcene Bay, its western arm, is shallow and marshy at the head, where there is the post village of

Quilcene on the left bank of Big River. This village is connected with Port Townsend by railway. Abreast of Oak Head, on the western side of Dabop Bay, the Dusewallips River enters Hood Canal, and the detritus brought down by its water has formed a shallow flat in front of it, extending nearly three-quarters of a mile.

On the morning of May 12, they were at Hazel Point. To west and northwest lay that range of snowy (Olympic) mountains, which they had noticed the morning they had spoken with the Columbia. These gradually descended in a southern direction, whilst the summit of the eastern range which now and then appeared, seemed to give bounds to the low country on that side. From here they continued their researches of the southwest branch of Hood Canal. The habitations of most of the natives appeared to be situated about the extremity of the inlet, and they were found to be a civil and well-disposed people. The inlet was named "Hood's Channel" after the Right Honorable Lord Hood, who had signed the original instructions for Vancouver's voyage. It is now charted as Hood's Canal.

Lord Hood was again honored by the Vancouver expedition. In October, 1792, Lieutenant Broughton while exploring the Columbia River, saw a high mountain. Vancouver in his account of this discovery says: "The same remarkable mountain that had been seen from Belle View Point again presented itself, bearing at this station S. 67 E.; and though the party were now nearer to it by seven leagues, yet its lofty summit was scarcely more distinct across the intervening land which was more than moderately elevated. Mr. Broughton honored it with Lord Hood's name; its appearance was magnificent; and it was clothed in snow

from its summit, as low down as the high land, by which it was intercepted, rendered it visible." Another recognition of the Admiral's name is that of Hood Head, an island-like mass on the western side of Hood Canal, three miles southward of Foulweather Bluff, and a prominent feature in entering the canal.

I voyaged through Hood Canal from Seattle, August 27, 1913, in the steamship *Potlatch* under command of Captain R. B. Holbrook. Our first stop was made at Port Ludlow. It lies nine miles southward of Point Marrowstone and on the west side at the entrance to Hood Canal. From the entrance, the bay extends in a general southerly direction, two and one-half miles, terminating in a basin one-half mile in diameter. The town of Port Ludlow, on the north side of the basin, is an important mill port and exports much lumber. Ship building is also an industry and repairs to wooden vessels are made here. The wharves are available for deep draft vessels. We then visited Port Gamble. This is an inlet on the eastern side of the canal, about five miles from its entrance. It is about two miles long and half a mile wide with an average depth of five fathoms. On the western shore at the entrance is beautifully situated the town of Port Gamble. Lumber mills are located here from which much lumber is shipped. We next stopped at Hoodsport, a post village on the west side of the canal, thirty-six miles from the entrance to the canal. It has a landing wharf with fourteen feet of water. A stage road runs from here nine miles to Lake Cashman, a resort much frequented in summer. The towering peak of Mount Ross rises almost sheer from the waters of this lake. *Potlatch*, an important post village on the west side of the canal two miles southward from Hoodsport and opposite the

great bend, has a substantial wharf with twenty-five feet at low water along the face of it. There is also a long trestle carrying a logging railway out into the port where logs are rolled from the cars into the water. This railway is said to be twenty-five miles long, and rises by switch-backs into the high back country. We arrived at Union City at 6:15 P. M. This is as far as Vancouver went. Union City, a place of about two hundred inhabitants, is beautifully located on the east side of Annas Bay. It was founded in 1856 by two Indian traders by the names of Wilson and Anderson. The latter died and the former sold his interest in the place to John McReavy, who developed it.

Vancouver found Indians and their habitations near where Union City is now located, and he says they were a "civil people." He further says, "This deplorable disease [smallpox] is not only common, but is greatly to be apprehended is very fatal amongst them, as its indelible marks were seen on many; and several had lost the sight of one eye, which was remarked to be generally the left, owing most likely to the virulent effects of this painful disorder." The Snokomish Reservation is located near Union City, and upon it is found the Twana tribe of Indians. From a former population of fifteen hundred, it has dwindled to about three hundred and fifty individuals. This diminution has probably been the effect of smallpox, the "deplorable disease" referred to by Vancouver. These "civil people" have espoused the Quaker religion with Chief David Charley as their minister.

Between the Hood Canal and the Straits of Juan de Fuca is the Olympic National Forest. It lies within the Olympic Peninsula and covers portions of Clallam, Jefferson, Chehalis, and Mason counties in the state

of Washington. It comprises the Olympic Mountain group, with its relatively abrupt slopes upon the east, north, and south, and its long slope to the west. The Olympics are a group of mountains of nearly circular shape, radiating from a central mass which culminates in Mount Olympus, with an altitude of eight thousand, one hundred and fifty feet. Many other summits rise to altitudes ranging between seven and eight thousand feet, and large areas lie above timber line, which has an altitude of from five to six thousand feet. Near timber line are considerable areas of open country, some covered with ice, others barren and rocky, while some consist of open grass lands. Glaciers and snow fields are numerous in the central mountains; though individually of small extent, collectively they cover a large area. As a whole, this region is wild, rugged, and inaccessible. It has been estimated that the merchantable stand within the boundaries of this forest, approximates twenty-five billion, five hundred million board feet and is capable of producing a sustained annual yield of two hundred and fifty million board feet. Thirty-seven percent of this consists of Douglas fir; thirty-five percent of western hemlock; fifteen percent of amabilis and grand fir; eight percent of Sitka spruce; and five percent western red and Alaska cedar. In this forest is found as great a variety of big game as in any other part of the United States outside of Alaska. Here is the last stand of the elk. It is said that as many as five thousand of these noble animals roam at will over the jagged peaks of the Olympic. Bear and cougar also abound in this region.

Returning to Port Discovery, Vancouver, on the afternoon of May 17, caused the tents and observatory to be re-embarked, and everything to be put in readiness

for sailing the next morning. A light wind from the S. E. and pleasant weather favored their departure. The ships arrived at the entrance of the port about breakfast time. Vancouver landed on the east end of Protection Island, in order, from its eminence to make a more accurate view of the surrounding shores. In most directions, they seemed much broken, particularly in the northern quarter which appeared to be occupied by an archipelago. On his return on board he directed Mr. Broughton to use his endeavors, in the Chatham, to acquire some information in that direction, whilst he continued his examination with the Discovery up Admiralty Inlet, which they had discovered in the boats, to the eastward of Foulweather Bluff. The first inlet to the southeastward of that point on the starboard, or continental shore, was appointed as the place for the next rendezvous.

Vancouver having already traced the western shore of Admiralty Inlet in the boats, after leaving Port Discovery kept the eastern side on board, which like the other abounded with verdant open places. On one of these beautiful lawns, nearly a league within the entrance of the inlet, about thirty of the natives came from the surrounding woods, and attentively watched them as they sailed along. On the south side of the lawn, were many uprights in the ground which had the appearance of having formerly been the supports of the large wooden houses. After advancing about four leagues up the inlet, because of bad weather and tide conditions, the Discovery anchored for the night, in eighteen fathoms of water, about half a mile from the eastern shore. The next morning, Saturday, May 19, the explorers weighed anchor and pursued their route up the inlet.

Vancouver was infatuated with his surroundings. He says: "To describe the beauties of this region, will, on some future occasion, be a very grateful task to the pen of a skilful panegyrist. The serenity of the climate, the innumerable pleasing landscapes, and the abundant fertility that unassisted nature puts forth, require only to be enriched by the industry of man with villages, mansions, cottages, and other buildings, to render it the most lovely country that can be imagined; whilst the labour of the inhabitants would be amply rewarded, in the bounties which nature seems ready to bestow on cultivation." Existing conditions show the foregoing was not an exaggerated statement.

Having advanced about eight leagues from their last night's station, they arrived off a projecting point of land, on which stood an Indian village, consisting of temporary habitations, from whence several of the natives assembled to view the ship as she passed. Here the inlet divided into two extensive branches, one (Puget Sound) taking a southeastern, the other (Colvos Passage) a southwestern direction. Near this place was their appointed rendezvous with the Chatham; and near the village point they found a commodious roadstead, in which they anchored.

Next day in the meadow and about the village many of the natives were seen moving about, whose curiosity seemed little excited on account of the ship at anchor. Towards noon Vancouver went on shore to the village point, for the purpose of observing the latitude. On this occasion he visited the village and found it the most lowly and meanest of its kind. The best of the huts were poor and miserable, constructed something after the fashion of a soldier's tent of two cross sticks about five feet high, connected at each end by a ridge-

pole from one to the other, over some of which was thrown a coarse kind of mat, over others a few loose branches of trees, shrubs, or grass; none of them, however, appeared to be constructed for protecting their occupants, either against the heat of summer, or the inclemency of winter. In them were hung up to be cured by the smoke of the fire they kept constantly burning, clams, mussels, and fish, seemingly intended for their winter use. Not all the clams were reserved for that purpose, as he frequently saw them strung and worn about the neck, and these, as inclination directed, were eaten, two, three, or half a dozen at a time. Nearly the whole of the inhabitants belonging to the village, which consisted of about eighty or a hundred men, women, and children, were busily engaged like swine in rooting up the beautiful verdant meadow in quest of a species of wild onion, and two other roots, which in appearance and taste greatly resembled the farrane, particularly the largest; the size of the smallest did not much exceed a large pea.

On May 23, some of the young gentlemen connected with the Discovery extended their walk to a cove which Vancouver had visited the first evening of their arrival, and found it communicated by a narrow passage with an opening apparently of some extent. In consequence of this information, Vancouver, accompanied by Mr. Baker in the yawl set out the next morning to examine it. They found a most excellent harbor, which after the gentleman who discovered it, was by Vancouver named Port Orchard. It is not definitely known who was then honored. It probably was H. M. Orchard of the Discovery. The muster roll of that vessel shows that a man by that name was mustered in as clerk on that vessel, that his birthplace was Cornwall, and that

he was thirty-one years old. It also shows that December 1, 1792, he was appointed midshipman, and that he again was listed as clerk December 1, 1794. In October 1, 1792, Lieutenant Broughton, while exploring the Columbia River, named a small tributary east of Gray's Bay, Orchard's Bay.

Port Orchard, as it is now known, is an extensive body of water lying westward of Bainbridge Island. It is about fifteen miles long and has an average width of over three-quarters of a mile. The country around Port Orchard is being rapidly settled, and many towns and post villages, each with one or more landing wharves for the shipment of farm produce, having sprung up in recent years. All of them are in daily communication by steamer with Seattle, and many of them by telegraph and telephone. I voyaged to Port Orchard, July 11, 1911, and July 27, 1918. On my second visit I found many changes had been made. When the future importance of the Pacific coast began to dawn upon the minds of men of the east, the Congress of the United States decided that there should be a naval station on the northwest coast. The commission to whom was left the selection of a site for it, after a careful examination, recommended the north shore of Port Orchard Bay as offering the best advantages for the purpose, and most certainly the recommendation was a wise one. Here may be seen different types of the best fighting machines and implements of the world. In the placid waters of the bay, ride grim, gray battle-ships and cruisers, while lesser craft dart to and fro across the harbor. When I was there in 1911, the *Pennsylvania* was in the dry dock being overhauled, and beside the *Chippewa* on which I voyaged, there were anchored in the harbor, the steamships *Charles-*

ton, St. Louis, Princeton, Oregon, and St. Paul. The government dry dock then in use was six hundred and forty feet long, over all, five hundred and seventy-three feet on the blocks, and had a width at the entrance of ninety-three feet and eight inches. On my visit in 1918, I found that a second dry dock, doubling the capacity, had been constructed. When I was there in 1911, visitors were permitted to inspect the navy yard every day from 8 A. M. and were allowed to go on board of the vessels. When I was there in 1918, no visitors were allowed unless they had permission from the proper officers. Bremmerton is a town on the east side of the Navy Yard, and Charleston is on the west side. Both have landing wharves and post offices. Sidney is on the south side of Sinclair Inlet, opposite the Navy Yard, and has two landing wharves and a post office. This town is beautifully located and presents an attractive appearance. Many of the officers and principal men connected with the Navy Yard have their homes in Sidney.

Vancouver discovered on his return from Port Orchard that the natives were preparing to depart with all their stock and effects. These consisted chiefly of the mats for covering their habitations, their skin and woolen garments, their arms, implements, and such articles of food as they had acquired during their temporary residence. These with their family and dogs all found accommodation in a single canoe. The dogs belonging to this tribe of Indians were numerous, and much resembled those of Pomerania, though in general somewhat larger. They were all shorn as close to the skin as they were in England; and so compact were their fleeces, that large portions could be lifted up by a corner without causing any separation. They were com-

posed of a mixture of a coarse kind of wool, with very fine long hair, capable of being spun into yarn. This gave Vancouver reason to believe that the native woollen clothing might in part be composed of this material mixed with a fine kind of wool from some other animal, as their garments were all too fine to be manufactured from the coarse coating of the dogs alone.

After the parting of the vessels at Port Discovery, Vancouver in his journal only says of Mr. Broughton and the Chatham, that in the afternoon of Friday, May 25, "the Chatham was seen from the mast head over the land, and about sunset she arrived and anchored near us. Mr. Broughton informed me, that the part of the coast he had been directed to explore, consisted of an archipelago of islands lying before an extensive arm of the sea stretching in a variety of branches between the N. W. north and N. N. E."

In the preceeding chapter we left the Discovery and Chatham at anchor near what Vancouver called Restoration Point. Restoration Point lies across Puget Sound, immediately west from Seattle. It is the extreme north-eastern point of Bainbridge Island. No mention of this island is made by Vancouver. The probabilities are that he did not discover that it was an island. It lies in a deep bight of the Great Peninsula, and its eastern coast forms the western shore of Puget Sound, abreast of West Point. It is nine miles long, north and south, moderately high, with high bluffs along the eastern coast, broken by several indentations forming good harbors and anchorages. It consists of logged off land. Formerly the timber on it was converted into lumber. The largest sawmill in the world, at one time, was located on this island. It was owned by Captain William Renton, a pioneer

citizen of Seattle. He was succeeded in ownership by the Port Blakely Mill Company, which at one time was the largest land-owning concern in the state of Washington.

Among the important ports and harbors of Bainbridge Island are Port Madison, and Eagle and Blakely harbors. Port Madison is on the western shore of Puget Sound, twelve miles southward of Point-No-Point. At the head of Port Madison is Agate Point. Here is located the Squamish Indian Reservation. The buildings of this tribe are prominent from the inlet. Here was the home of Chief (Sealth) Seattle. The main house of the tribe was across the inlet on the mainland. Chief Seattle's home orchard is still to be seen at Agate Point. At the launching in 1914 of the steamer "Squamish," one of a fleet of vessels daily plying between Seattle and Bainbridge Island, Miss Blanche Thompson of Seattle, the great-great-granddaughter of Chief Seattle, very fittingly was the sponsor for the vessel.

Eagle Harbor is situated on the eastern shore of Bainbridge Island five miles southward of Point Monroe and opposite Elliott Bay. A ship building plant is located on the north side of this harbor three quarters of a mile from its entrance, with ways capable of handling vessels of four thousand tons displacement. Eagle Harbor village and post office is on the south side of the bay. An extensive creosoting plant is located there, with wharves capable of accommodating vessels of large size. From here there is an extensive trade to foreign and domestic ports in prepared piles and paving blocks. Blakely Harbor lies about one mile southward of Eagle Harbor. It is about one mile long and a half mile in the entrance, narrowing to the head.

Port Blakely, at the head of the harbor, is a large mill port and exports a large amount of lumber.

The importance of Bainbridge Island is not only due to the fact that it is the seat of important industries, but because it affords homes for a large number of Seattle citizens. Beginning with Fort Ward, a post of the federal government, north of the west point of the island, there are a large number of places well suited for permanent homes and summer camps. Many such homes are already in existence, and many camps have been located on small tracts, fronting on the water front or in the pleasant woods behind. Typical of such places is Pleasant Beach, just west of Fort Ward, whose residents are so situated that they may reach Seattle in time for business in the morning and return home in the evening immediately after the conclusion of business hours. Directly facing Seattle, only three miles from Magnolia Bluff, are the several resorts of La-View, Rolling Bay, Manitou Park, and Yeomalt.

On Vancouver's return from the examination of "the small opening to the westward" he directed that a party, under the command of Lieutenant Puget and Mr. Whidbey, in the launch and cutter, should proceed, with a supply of provisions for a week, to the examination of (Colvos Passage) that branch of the inlet leading to the southwestward; which was accordingly carried into execution, at four o'clock the next morning, May 20. The main arm of the (Admiralty) inlet leading towards Mount Rainier still remained unexplored. Accordingly, Vancouver directed that Mr. Johnstone, in the Chatham's cutter, should accompany him in the Discovery's yawl, for the purpose of examining said "Main Arm." On Saturday morning, May 26, accompanied by Mr. Baker in the yawl, they

departed from the ship, and directed their route along the shore of the inlet, which was about a league wide. Towards noon they landed on a point (not named, but probably Point Brown) on the eastern shore. After dining on this point, they passed around it and found that the inlet terminated in an extensive circular compact (Commencement) bay, the waters of which washed the base of Mount Rainier, though its elevated summit was yet at a very considerable distance (forty miles) from the shore.

From Commencement Bay they proceeded to the northwest, up the inlet (Puget Sound) and it was not long before they found that it divided into two branches, the one taking a northwardly direction; the other stretched to the southward. With the assistance of a strong tide, they rapidly passed through a fairly navigable channel the one that led to the southward. They found it near half a league wide, with soundings from twenty-four to thirty fathoms free from any appearance of shoals, rocks, or other interruptions. The eastern shore was found nearly straight and compact; but on the western, three wide openings (Hale Passage, Carr Inlet, and Balch Passage) were seen, whose terminations were not distinguishable. Having advanced about three leagues from the south, or inner point of entrance, they halted about eight in the evening for the night, on a small (Ketron) island, lying about a mile from the eastern shore.

By noon next day they reached Point Johnson on the larboard shore, where the inlet was again divided into two other large branches, one (Dana's Passage) leading to the southwestward, the other (Case's Inlet) towards the north. The southwest branch became their first object of investigation. This they found divided into

two narrow channels (Budd and Eld inlets) leading to the southward. Up the westernmost (Eld Inlet) about six miles they took up their abode for the night. Early in the morning of May 28, they started and soon found the channel to terminate in low, swampy ground with a shallow sandy bank extending some distance into the channel. Having satisfied themselves with the extent of the inlet in that direction they returned, and about nine o'clock landed to breakfast about two miles within the main entrance of the southwest branch.

At this place Vancouver determined "to return on board of the ships." On the way back they proceeded to ascertain if any communication existed with the inlet by way of Whallochet Bay. The farther they advanced, the more doubtful it became, until at length about three leagues north of the above point it terminated in a shallow flat before a swampy bog. Towards noon of the 29th, they landed on the north point (Evans) of the entrance into Colvos Passage, the second opening they had passed on Saturday evening. The strength of the ebb tide facilitated their progress, and their conjectures were soon proved to have been well founded in this being the same inlet which Vancouver had directed Puget and Whidbey to examine. Through this channel Vancouver's party were carried with great rapidity, and in the evening arrived on board. The land composing the eastern shore of this channel, and the western shore of that they had pursued on Saturday morning, was now ascertained to be the most extensive island they had yet met with in their several examinations of the coast, and Vancouver named it after his friend Captain Nasborg of the Royal Navy.

Meanwhile Puget and Whidbey had explored all

those parts of the inlet which Vancouver had passed by. Vancouver says: "Thus by our joint efforts, we had completely explored every turning of this extensive inlet; and to commemorate Mr. Puget's exertions, the south extremity of it I named Puget's Sound." As the name "Puget Sound" appears on Vancouver's chart, it would seem that by "the south extremity," he meant all that portion of the inlet which lies south of Hartstene Island; from the entire sentence, however, it is evident that he meant all that portion of the inlet south of Colvos and Dalco passages. As now charted, this would include, the Narrows, Hale's Passage, Carr Inlet, Balch Passage, Drayton Passage, Nisqually Reach, Case Inlet, Budd Inlet, Eld Inlet, Totten Inlet, Hammersly Inlet, Pickering Passage, and other small bodies of water.

Under special names the great body of water now known to the commercial world under the general designation of Puget Sound may be described as a series of vast interior canals, giving unsurpassed facilities for navigation in the very heart of a prosperous section of the country. It extends about thirty-five miles in a general southerly direction from the southern end of Whidbey Island, and then turns southwestward, traversing by eight principal arms an area of twenty-two miles square. The extreme southwestern arm, Case Inlet, reaches within two miles of the head of Hood Canal, and between lies comparatively low-ground and a large lake. At its northern end it connects with Possession Sound and the inland waters eastward of Whidbey Island that lead through Deception Pass into Rosario Strait.

Peter Puget, the man honored in the naming of Puget Sound, entered the English navy, August 1, 1778,

as a midshipman. He saw service in the North Sea, the West Indies, and elsewhere, and was booked as a lieutenant under Captain Vancouver on the Discovery, November 23, 1790. He was transferred to the Chatham as commander, January 14, 1793. Ultimately he became a rear-admiral of the blue. He died at Bath, October, 1832, at his home in Grosvenor Place, after a long and painful illness.

Tacoma

Charles Wilkes was born in the city of New York, April 3, 1798, and died at Washington, February 8, 1877. He entered the navy in 1816 and in 1823 was given a separate command. In 1826, he was made a lieutenant and in 1838 was placed in command of an exploration expedition to the South Sea and around the world. In July 1842, he was promoted to be commander. In 1861, he was sent to the West Indies to look after the Confederate steamer Sumter, and, on November 8, forcibly removed Slidell and Mason from the British Mail Steamer Trent. He was promoted to the rank of commodore in 1862, and subsequently he was appointed acting rear-admiral. In making his exploring expedition around the world, his ships Vincennes and Porpoise arrived off the mouth of the Columbia River, April 29, 1841, but owing to the roughness of the water on the bar, they were turned northward and entered the Straits of Juan de Fuca with a view of beginning the survey of the coast in that quarter. The night of the 10th was passed just below the Narrows leading into Puget Sound, which by the assistance of the tide he passed through on the 11th and that night cast anchor at Fort Nisqually, at the head of the Sound. He began his work from a stake on Point Defiance. In his report of the survey he says: "The first bay at the bottom of Admiralty Inlet was named Commencement Bay; into this falls the Puyallup which forms a delta and none of the branches into this division

are large enough for the entrance of a boat." Thus at that early date, Commencement Bay was located, named, and given a place in the government records.

Nicholas de Lin, a native of Sweden, was the first white man to settle on Commencement Bay. In 1852 he secured a half section of land at the head of the Bay on the south side, and erected the first log cabin. Soon thereafter, De Lin, Michael T. Simmons and Smith Hays built a little water-power sawmill along the shores of what is known as "Old Tacoma," and in 1856 sent a ship load of lumber to San Francisco. In that year Peter Judson came and located a claim on the half section just north of that of De Lin. Miles Galiher later acquired the De Lin property, including the mill. On Christmas morning, 1864, Job Carr rounded Brown's Point in a canoe and seeing a pleasant spot across Commencement Bay, paddled to the shore at nearly the same spot that had attracted De Lin. He erected a log cabin, which is still preserved by the city of Tacoma in Point Defiance Park, and proceeded to clear a place for himself in the forest. These early and slender beginnings received an enormous impetus in 1868 in the arrival of General Morton Mathew McCarver. He had been a lifelong frontiersman of wonderful capacity. Becoming interested in prospective railroads, he figured out that Puget Sound was the best place for a terminus of them on the Pacific coast. He bought or preëmpted all the land he could on the Bay, including all of Carr's claim, except five acres, built a cabin and removed his family to it, and then began his aggressive work of building a town. He persuaded the firm of Hanson, Acerson, and Company to build a sawmill there. Then he began making preparations to file a plat and begin the sale of town lots. For this

purpose he wanted an appropriate name. The place had been called Puyallup and Commencement City, but neither of these suited him. In September, 1868, Mr. Philip Ritz, a cultured man and scientific farmer, visited the place on a tour gathering information for the Northern Pacific Railroad Company. He had just been reading Theodore Winthrop's book, *The Canoe and Saddle*, in which that author declared that the Indian name for Mount Rainier was "Tacoma." Mr. Ritz warmly advocated the choice of that name for the new town. General McCarver and his family became advocates of the name, but his partner, Lewis M. Starr of Portland, did not like it. The General, however, had his own way, and his son-in-law, C. P. Ferry, who was clever with the pen, changed "Commencement City" to "Tacoma" on the plat before it was used for selling lots or for filing of record, which was done December 3, 1869. The city was incorporated by an act of the territorial legislature November 12, 1875.

The city of Tacoma is located on a peninsula extending into Puget Sound. On the east side of the peninsula is Commencement Bay, in which Tacoma Harbor is situated. The entrance to this harbor is between Points Brown and Defiance four miles apart, but abreast Point Brown it is reduced to two miles. The Puyallup River discharges at the head of the harbor between newly-built wharves or piers. The waters of the harbor are deep throughout, ranging from ninety fathoms in the entrance to twenty-five and thirty fathoms to the mud-flats which rise abruptly. The harbor is easy of access and free from dangers.

On the west side is the Narrows – one of the many arms of the Sound. The business section of the city lies along the waterfront on the east side of the Cape,

known as Point Defiance. The land on which the city is built is high, and, for the most part, level, breaking abruptly to the shore line. The charm of Tacoma as a place for residence is easily explained. The residence portion of it is situated upon the higher ground, and is thus lifted above the stir and noise of the business portion; its citizens continually enjoy pure air, good drainage and the most delightful views. Such is the gradient slope of the hillside that, like raised chairs in a theatre, the windows of nearly every house upon it command the incomparable view spread before it. Across the bay, the eye follows the meanderings of the Puyallup River – “a thread of silver winding through the meadow of the valley on through the Indian Reservation, until it is lost in the dark pine forests of the foothills.” Then above this dark girdle, the great snow-capped Mount Tacoma, as its citizens love to call it, lifts her mighty hoary head far into the clouds. Looking to the west from these same windows are seen the jagged peaks and white snow caps of the Olympics, forming another beautiful and distant horizon.

When the contest for the location of the terminus of the Northern Pacific Railroad began, the population of Tacoma was less than two hundred. McCarver was the managing director of the railroad company for the Pacific coast. After examining the various points on Puget Sound for a terminus of the railroad, he finally fixed upon the west shore of Commencement Bay, as the location most to his liking, and as we have seen, the name of the city was to be Tacoma. The last spike on the railroad was driven by him about three o'clock on the afternoon of December 16, 1873, and a little later the first through train from Columbia River to Puget Sound arrived at Tacoma. Its arrival was made the

occasion of much rejoicing, particularly in Tacoma, whose people felt that their city was now in fact, what they had so long claimed it to be, the real terminus of a transcontinental railway. This train was brought over the mountain on temporary switchbacks. The overland trade of the port now is served by the Northern Pacific Railway, the Chicago, Milwaukee and St. Paul Railway, the Puget Sound Railway, and the Oregon and Washington Railway.

Prior to November, 1880, the little town of Steilacoom was the county seat of Pierce County, Washington, but as Tacoma grew and the principal interests of the county became centered there, it was decided that at the general election held in that month, the question of a permanent location of the headquarters of the county offices should be left to a vote of the people and, on the 10th of the month, the county commissioners formally declared that by an overwhelming vote Tacoma was the choice of the people. At the opening of the year 1887, the population of Tacoma did not exceed nine hundred. This had been the result of a gradual, steady growth since the little sawmill settlement was electrified by the news that it had been chosen as the site for the terminus of the Northern Pacific Railroad. After the creating of Tacoma as the county seat its population increased very rapidly. In 1890 the population was 36,006; in 1900, it was 37,714; and in 1920, the United States census credited the city with a population of 96,965.

Tacoma's public schools are excelled by few, if any, in this country in their equipment, instruction and general advantages. The city offers the children free text books, the best of buildings, modern courses in business, commerce, language, a night school for foreigners and

technical students, private seminaries for the girls, and college courses in two institutions – Whitworth College and the University of Puget Sound. These go to make this city one of the leading educational centers of the Pacific Northwest. The brightest star in its public school system is the high school building and its accompanying stadium. These two structures, standing on an eminence overlooking the Bay, have been the subject of much wonder and admiration on the part of visitors from all over the world. No other public school system in the world has an athletic field such as this stadium. It is a commodious amphitheatre of reinforced concrete, shaped like a horseshoe, which opens on and gives an unobstructed view of the waters of Commencement Bay. Originally it was a deep gulch with the magnificent high school sitting at its edge. Now it is a thing of beauty capable of comfortably seating thirty thousand people. There has been completed a second high school which is situated in the southern part of the city, constructed at a cost of \$378,000, exclusive of furnishings.

Tacoma is a city of parks. It has within its limits more than one thousand acres of well-kept breathing spots and recreation grounds. Point Defiance Park contains six hundred and thirty-seven acres of land, ten miles of fine highways already built and more in construction, and three miles of separate paths. This park was granted to the city by the War Department with the proviso that if the government found it necessary in case of war to use the tract for military purposes it could regain its title. Following the roads, running through the park, the visitor's eyes first feast upon a profusion of flowers in hot houses or outdoors, then gazes upon rare animals in cages and next finds he is

in the midst of a mighty forest. Lofty firs standing hundreds to the acre and growths of mammoth red cedar line the highways on both sides. The road leads into a jungle of soft maple, vine maple, intertwining with alder, birch, yew, shittim, hemlock, and swamp cedar with a dense under-growth of ferns, devil's club, and salmon berries. Pushing further on the visitor comes out on a plateau and thence, through a growth of madrona and deciduous trees underlaid with thickets of huckleberry bushes and other small plants, he beholds the Sound. He turns away from this vista with reluctance to retrace his steps to the busy world only a few blocks away and yet seemingly hundreds of miles distant. Wright Park is the most artistic park in the city, consisting of twenty-seven acres and located in the central section of the city. Few parks in this country contain as great a variety of trees or offer as many opportunities to the lover and student of botany. It has a wonderfully well-selected collection of foreign trees growing within its confines and also has a conservatory which attracts many visitors every day in the year. McKinley Park, in the southeastern section of the city, contains over twenty acres and is one of the most prominent recreation places of the city. This big park overlooks the entire waterfront, the harbor, the Puyallup valley and the greater part of the business section of the city. Spanaway Park is the second largest of the city's resting places, containing three hundred and thirty-nine acres of land. This park is located on the shores of Spanaway Lake, a large fresh water body south of the city, and is one of the popular summer resorts. The other parks of the city are all close to the business and residence sections, where they are needed, and, being under the supervision of the Metropolitan Park Board,

are maintained and kept in excellent condition. As a pleasure resort, Tacoma has much to offer not only to the visitor and the tourist but to its own citizens.

At LaGrande, on the Nisqually River, forty miles from Tacoma, the city has constructed a municipal power plant, the cost of which was \$2,500,000. Thirty-two thousand horse power is generated by this plant, all of which, except a small fractional part converted into light, is for sale by the city to manufacturers and all power users, at a minimum cost to the consumer. The city has also completed at a cost of \$2,250,000, a water system by which the city is supplied with forty-two million gallons of water daily. This system has its source in Green River forty-three miles from Tacoma and the water is delivered by gravity.

Tacoma was the first city on the Pacific coast to adopt the commission form of government. The control of the city's affairs is lodged with a mayor, four commissioners, and a comptroller. The administrative functions are divided into four departments, viz: health and sanitation; public safety, including police and fire; public works, including power; and finance. The mayor is commissioner of health and sanitation and each of his colleagues is responsible for one of the other departments and is under bond against malfeasance or misfeasance in the discharge of his administrative duties. Elections are surrounded with restrictions which make it impossible for any aspirant for office to be the candidate of a political party, and all the appointments are made from a waiting list approved by a civil service board. All elective officers are subject to recall upon petition of twenty-five per cent of the electors. Legislative powers are given to the people through the initiative and referendum. The results have been, in

brief, to banish party politics from municipal affairs, to make the city officers directly accountable for the work of their departments, and to restore to the people the power to exercise their will and enforce their wishes in matters most vital to their interests.

My second visit to Tacoma from Seattle was made August 29, 1913, on the steamship Tacoma, commanded by Captain Paddy Burns. The return was made on the steamship Indianapolis, commanded by Captain Howard Penfiel. This vessel was named after my native city, where I was born May 28, 1838. My last visit was made in an automobile August 3, 1918. The distance between Seattle and Tacoma proved to be thirty-two miles and the time in making it two hours. It was made over the Pacific Highway, which follows the shore of Puget Sound from the city of Vancouver, B. C., to the coast of Mexico. It is brick-paved and wide enough for three automobiles to pass safely. Here, in Vancouver's time, was an Indian trail scarcely wide enough for two Indians to pass. This gives one some idea of the wonderful changes that have been made on the North Pacific coast since Vancouver's day.

Vashon Island, the largest in Puget Sound, is directly to the northward of Tacoma and distant three miles from the shore line. It has numerous settlements upon it. Farming and fruit raising are the principal industries, and produce is shipped from landings on both sides of it. It has a very productive soil and is known as the "Home of the Big Strawberry." It has an extensive population and is the summer home of many Tacoma families. Vashon is its principal town, with a landing wharf in twelve feet of water under the bluff one mile southward of Point Beals.

Colvos Passage on the western side of Vashon Island,

is about eleven miles in length in a general north and south direction, with an average width of one mile. It is nearly straight and free from outlying dangers. The northern entrance is about four and one-half miles south by west from Alki Point, and the southern entrance is about four miles westward from Point Brown and abreast of Point Defiance. The currents of this passage, especially the ebb, have greater velocity than in Puget Sound, the eastern passage, and advantage of this is at times taken by vessels from Tacoma to Seattle, although the distance is a little greater.

Seattle

It was during the visit of Lieutenant Charles Wilkes to Puget Sound in 1841, that he discovered Elliott Bay, upon the shores of which the city of Seattle is now located. The bay was named by him, probably in honor of Rev. J. L. Elliott, chaplain of the Vincennes. It is now more generally known as Seattle Harbor. It is almost circular in contour. In the proceedings of the American Society of Civil Engineers of 1912, General H. M. Chittenden says: "Into the spacious enclosure of Elliott Bay, a ship can enter without tug and pilot and pass directly to berth under her own steam in all conditions of weather, and always feel certain that her hull will not touch bottom. It is the most favored port in the world in this respect, excepting only one or two of its sister ports on the Sound, which enjoy the same advantage." The entrance to the bay is between West Point and Alki (Battery) Point about five miles southward. The bay proper, included between Smith Cove and Duwamish Head has a width of nearly two miles and extends south-southeastward for nearly the same distance to the flats at the head. Duwamish River enters it at the head and formerly through two channels or waterways, each of which was about one thousand feet wide. These have been thrown into a single strait channel.

On the evening of July 19, 1912, at five o'clock, I passed Irondale and for the fourth time entered Elliott Bay. The sea was shimmering and sparkling in the

light of a beautiful sunset like a million diamonds. The Jefferson moved majestically, leaving behind her a broad white wake of foam. So quiet were the waters that the track was broken neither by wind or ripple of countercurrent. The water was of the darkest marine blue with occasional spots of lighter tints. The annual Potlatch was being held at Seattle. This was the evening for an exhibition of fireworks on the bay. As we approached the city, the hills upon which it is located sparkled with thousands of electric lights, twinkling like the millions of stars in the sky above them. A man-of-war stood in mid-bay and it was illuminated to the water's edge with electric lights, and many vessels in like manner illuminated were moving to and fro. Together it was the most beautiful display of electrical lighting that I had ever witnessed. And in the words of Alice Harriman:

“Behold! where moaned the trees their coming fate,
A spreading city lies 'twixt lake and sea,
Where hunter followed game tracks dank and dim,
Commerce and culture touch glass rim to rim,
Where Indian fished, lie world-ships filled with freight –
Seattle, splendid, sired by Destiny!”

Seattle, situated in the northeastern part of Elliott Bay, is the largest and most important city in Puget Sound, and covers practically the entire northeastern shore of the bay. There is an extensive system of wharves along the front of the city, and vessels of any draught can go directly there to load and discharge their cargoes, as these wharves extend into deep water. The city is the terminus of, or connects with, several transcontinental railways. It is also the terminus of several lines of trans-Pacific steamers and connects with ports north and south both by rail and water.

The origin and development of Seattle reads like a romance. September 25, 1851, John N. Low and Lee Terry concluded to locate a town site on Puget Sound and with this in mind, made a joint location on Alki Point, which location is now indicated by a boulder monument. Low hired David T. Denny to remain on the claim with Terry while he returned to Portland for his family. On the 28th of the month, Terry and Denny laid the foundation for the first cabin, which was built for John N. Low. On Thursday, November 13, Arthur A. Denny, John N. Low, Carson C. Boren, William N. Bell and their families and Charles C. Terry landed at Alki Point. Of these pioneers there were twenty-four persons, twelve of whom were adults and twelve children. The first work to be done by the colony was to provide shelter for the winter, and this was done by finishing the house begun for John N. Low. All took shelter in it when it was finished. They next built a log house for Arthur A. Denny, which increased their room very materially and made all more comfortable. This used up all the timber suitable for log houses which they could get without a team and then they split cedar logs and built houses for William N. Bell and Carson C. Boren. These were considered quite fancy, but were not so substantial as the log houses. After a careful examination of the harbor, timber, and feed for stock, Denny, Bell, and Boren, February 15, 1852, located and marked three claims in one body. Such was the beginning of Seattle, which has in sixty-six years grown from a pioneer colony of twenty-four persons to an estimated population of three hundred and fifty thousand.

In March, 1853, Henry L. Yesler started the first sawmill in the territory of Washington. It was located

on ground in Seattle assigned to him for that purpose. Near the mill was erected a cook house that became famous in the early days of the city. It served, as Mr. Yesler has said, "for town hall, courthouse, jail, military headquarters, storehouse, hotel, and church. Elections, social parties, and religious services were held under its roof." The mill was of such importance to the community that Mr. Yesler was often referred to in after years as the real father of the city. He at one time was its mayor, and "Yesler Way," which runs east and west through the center of the city from Lake Washington to Pioneer Place on Elliott Bay, being the main artery through which the city is entered from the bay, was named in his honor. All points of the city are reached from Pioneer Place and it is about this point that the business activities of the city are located. Near here, in a small triangular park, is located the first totem pole that will be seen by a tourist going to Alaska. It was not placed there by the Indians but was taken from an Indian village on Tongass Island, near Ketchikan, by members of the Post-Intelligencer business men's excursion to Alaska in 1899, and brought to Seattle. The pole has six figures, which, commencing from the bottom and reading upward, are the raven, whale, frog, mink, man, and the raven again.

Seattle is wonderfully and beautifully located. It rests on a series of hills between Puget Sound, its western boundary, and Lake Washington, its eastern boundary, while Green Lake and Lake Union, two large bodies of fresh water, are entirely within its limits. The Olympic Mountains tower to the westward, the Cascades to the eastward, and to the south Mount Rainier completes the picture. Its lakes, harbor, hills, and mountains form a natural setting which is incom-

parable. Most beautifully is this setting expressed by Seattle's poet, Mrs. Alice Rollit Coe, in her "Lyrics of Fir and Foam:—"

"Queen of the West! Fair city of our hope
Seated like Rome, upon her seven hills,
With majesty of mountain girth about,
And at thy feet the sea. Mist-swathed at dawn;
Bounded with jewels, like the sky, at night
The soft Pacific wave that laps thy feet
Urges thy freighted ships to distant shores,
Bringing the treasures of the East again.
Here is thy throne of beauty; here we see
The last great monument that man has set
To mark his slow and painful westward way."

The city was named in honor of an Indian chief whose name was Sealth but who was generally known as Seattle. He was born at the "Old Man's House" on the Fort Madison Reservation. His home was near Fort Madison. His father was a Suquamish, his mother, a Duwamish. He was a large, strong, and noble looking Indian and a great orator, who had much influence over the hostile Indians of the Puget Sound country. His disposition was not of the turbulent, aggressive kind, but rather of a mild and generous type, with all the firmness and courage necessary to defend and maintain the rights of his people against unfriendly tribes. These traits, coupled with more than ordinary intelligence, gave him his influence among the Indians of Puget Sound and commanded the respect and friendship of the early white settlers. He was about eighty years old at the time of his death, which occurred in 1889.

That which has most characterized Seattle and given to it the preeminence which it has attained, has been the

high character, energy, and vim of its citizens. On June 6, 1889, the city had a fire which entirely destroyed its commercial and business district. Not a bank, business block, hotel, or newspaper office except one was left standing. Only a scattering fringe on its outskirts was left. Then, facing a loss exceeding \$7,000,000 and at a time when hope might well have stood aghast in the midst of desolation, even before the ashes of the old Seattle had begun to cool, its citizens held a mass meeting and planned a new and greater Seattle. There was an obstacle in the way of the ultimate accomplishment of that work. East and at some distance north of the old center stood the hills, in sullen protest against extension. Their slopes were dotted with small buildings of many kinds. On one slightly elevation a huge hotel had been erected. But the demands of a growing business population for more room became insistent. To meet these, it was resolved to regrade the hills by washing them down. This involved great problems of engineering which Seattle solved to the astonishment of the world. The huge hotel and other buildings located on the hills were ruthlessly dismantled, torn down, and removed. The hills were washed away with hydraulic rams, their great bulk being carried by the force of the water out into the depths of the bay. By this means, in various parts of the city contiguous to the business district, many hundreds of acres were lowered and made level and accessible for a new business center. In the southern part of the city the vast amount of earth washed down from Beacon Hill was used to fill in the tide lands at the head of the harbor, creating a spacious acreage for manufacturing enterprises. These regrades cost the city more than eighteen million dollars.

Lake Washington, the east boundary of Seattle, is one of the most beautiful bodies of fresh water in the world. It is twenty-eight miles long and from one to six miles wide. It never freezes and is quiet enough to afford canoeing the year round. In 1854, General George B. McClellan, then western military engineer, submitted to Jefferson Davis, Secretary of War, a report in which he said that after examining Puget Sound and the lakes in and about Seattle, he was of the opinion that by using Salmon Bay, Lake Union, and Union Bay, a ship canal could be made connecting Lake Washington, and that such a canal would create the finest naval basin in the world. Captain Thomas Perry, U. S. N., said this was a grand and daring scheme, and Lieutenant Commander Drake, pronounced it the "finest ideal spot on the globe." In 1898, Theodore Roosevelt, then Assistant Secretary of the Navy, in a report to the President said: "I cannot too strongly recommend the construction of this canal; Lake Washington is a large sheet of fresh water with excellent banks. It is very deep, and of course free from tides. The necessity on that coast for fresh water, where sea-going vessels can be repaired and freed from barnacles, is most apparent." The conception of these distinguished persons met with a hearty approval and co-operation by the citizens of Seattle and an energetic campaign was commenced to bring about its full realization. Success crowned their efforts, and now the construction of the canal is an accomplished fact. The canal, as finished, creates the most magnificent land-locked fresh water harbor in existence, and extends Seattle's waterfront from fourteen to one hundred and forty miles in length.

Another remarkable undertaking of this kind was the building of the Duwamish River Canal by the

citizens of South Seattle through the direct and voluntary taxation of their property. This canal is four and one-half miles long and gives to the city thirty-two miles of fresh water harbor by using bends of the crooked Duwamish as slips for the dockage of smaller vessels. The main channel will accommodate the largest sea-going vessels, while the fall of the river causes a backing-up of the fresh water which eliminates the necessity of a lock. This project cost \$1,500,000, of which the United States Government appropriated \$225,000. Harbor Island is situated at the mouth of the Duwamish River. Upon this are located the Harbor Island Terminals similar to the Bush Terminals at Brooklyn.

Seattle's supply of electrical power is as cheap and attractive as that of any other city on the Pacific coast. It has three large hydro-electric plants operated by private companies and a large one owned and operated by the city. There are also steam relay plants which furnish about twenty-two thousand steam horse power. Its developed water power provides nearly two hundred and fifty thousand horse power. It is estimated that in the Cascades and Olympic mountains which surround the city on the east and west, there are two million, five hundred thousand horse power which can be utilized for its further development.

Taking thought for the future, the Board of Park Commissioners, serving without compensation, procured for Seattle thirty-seven parks with an aggregate area of about two thousand acres, and has through an expenditure of \$5,000,000 created a natural paradise of flora and fauna in the midst of her paved streets and business activities. Many of these valuable parks have been donated by public spirited citizens, so that the

greater part of the money expended has been spent in the improvement of these beautiful tracts on which nature has lavishly bestowed her charms. The parks have every advantage in the way of fresh water lakes, magnificent trees, and an undergrowth of ferns and shrubbery. One of them because of the large number of madrona trees growing in it is named Madrona Park. The parks are supplemented by a system of boulevards thirty miles in length and covering two hundred and twenty-five acres, which under a comprehensive plan, connects every park in the city by beautiful winding ways, bordered with trees, shrubs, flowers, and lake shores.

As an educational center, Seattle ranks with the foremost cities of the country. Her school buildings are of the most modern construction and equipment. With her seventy-one public schools, including six high schools, many of which offer evening instruction, to say nothing of her private and parochial schools, she is able to offer the best facilities for the educational purposes of her children. In addition to this, the University of Washington possesses, perhaps, the greatest natural advantage of all of the state universities. The history of this university is unique and interesting. In 1854-55, the legislature located it at Seattle, but provided for a branch at Boisfort. This was such a bad arrangement that it was set aside in 1857-58, and the University and its branch were united and located at Cowlitz Farms. Nothing, however, was done towards the construction of buildings under either of these acts. Mr. Arthur A. Denny, who had been a member of the legislature when the acts mentioned had been passed, as he was leaving Seattle for Olympia for another session in 1860, was met by the Rev. Daniel Bagley,

who said to him that if he would get the university located at Seattle, and have him appointed a commissioner with power to sell the lands donated to the state by the government, he would undertake to get the buildings so well started before the next legislature met that it would be difficult to remove the university. This Denny succeeded in doing but in doing so he had to agree that Seattle would give the territory ten acres of land as a site for the university. Denny met this demand, and subsequently gave something more than eight acres of it himself, while Charles C. Terry and Judge Lander gave the remainder. The ground thus donated is now near the busiest part of Seattle and promises to become at no distant day its business center. Bagley succeeded in making his promise good, and during 1861 and the early part of 1862 a general school building, a boarding house, and a house for the president were finished, and the University of Washington Territory was formally opened with Asa Mercer as President in the autumn of 1862.

The gift of Mr. Denny, the "Father of Seattle," and his associates, is destined to become the greatest financial asset ever attached to a state university. The land, which is now in the very center of the city, has been leased for a term of fifty years to a building company, which pays a large and ever-increasing rental, with the stipulation that the buildings themselves will eventually revert to the university. The old university building was deserted in 1895 for spacious new quarters on the enchanting shores of Lake Washington. This matchless campus covers three hundred and fifty acres, part of it still remaining "a forest primeval." The Alaskan-Yukon-Pacific Exposition was the enrichment of the university by property aggregating about two

million dollars, a legacy of beautiful and substantial buildings besides many other improvements.

Seattle is a city of beautiful homes, located on beautiful streets, and has a magnificent array of church structures, of which St. James Catholic Cathedral stands easily first. Its Carnegie Library and eight branches is used by one million people yearly. It has many clubs, of which the "Rainier" at Fourth Avenue and Marion Street, is one of the oldest and most exclusive. The Arctic Brotherhood also has a very substantial and well equipped club house. Its business center is rapidly being built up with "skyscrapers" one of which, a forty-two story building, is the tallest outside of New York, and as the city is approached through Admiralty Inlet and Puget Sound is a beacon to it almost from Whidbey Island. Without doubt, Seattle is destined to be the metropolis of the Pacific coast. What more fitting in this connection than the closing lines of Mrs. Coe's poem:

"How beautiful thou art
Stretching thine arms to greet the Orient;
Gazing with eyes of mystery, to pierce
The far sea spaces; dreaming mother-like;
The boundaries of thy power still unset,
The wonder of thy destiny unknown."

A place for freeing sea-going vessels from barnacles was one of the reasons given by Roosevelt for the construction of a ship canal to Lake Washington. The barnacle, the *Lepas antifer* of Linnaeus, is a mollusk, which envelopes its body in a shell and then attaches itself to a rock or timber below the surface of the sea or to the bottom of a vessel. Vessels often are impeded in their progress by the great number of these creatures which accumulate on their bottoms and for this reason

they have to be removed. Being salt water creatures, they immediately fall off when taken into fresh water, and this is why Roosevelt advocated the making of a naval basin of Lake Washington. Among the mollusks the *pholas* and *teredo* are two other interesting examples. The *pholas* which is often called the piddock, is a soft-bodied creature in a fragile shell, yet it can bore its way into the hardest of stone. It makes its two shells, its hammer and chisel. It first protrudes a stout foot, and with this to act as a sucker, it glues itself to the stone upon which it is to work; then by action of its shell, it slowly and laboriously grinds itself into the stone or other hard material to which it may have attached itself and when it has got far enough to make itself a home, it rests content, and burrows no farther.

The *teredo*, a genus of *acephalous testaceous*, is a mollusk that bores and penetrates the bottom of vessels and other submerged wood, and is more to be dreaded and disliked than the *pholas*. It does enormous damage to wooden ships and to the timber defences of harbors, wooden supports of bridges, and other submerged timbers. It is a long whitish worm, about an inch in circumference, and from twelve to thirty inches long. It can eat its way through any sort of wood. Not content with making a channel for itself through the solid timber, it builds a tunnel of lime or shell wherever it goes. Through this it can move freely, and at the same time be sure that its boring will not cause the woodwork to collapse upon it. It is said that it was from watching the work of these creatures that Sir Isambard Brunel got the idea for building the Thames Tunnel. He caused his men to drive rods into the mud and clay while they were protected by a shield. As the boring progressed, the shield was

pushed more and more forward into the heart of the river's foundation. But behind, where they had excavated, they guarded against a collapse by building an archway of brick, like the tube of the *teredo*. The waters of the Pacific coast simply teem with them. At almost any landing you can see their destructive work by examining wooden piles upon which the wharves are constructed. There is but one way, so far as I have learned to prevent this destruction and that is to copper-cover the bottoms of ships and other submerged wood. It will be remembered that Vancouver's ship *Discovery* was copper-covered, and no doubt it was done for this purpose.

Possession Sound enters Admiralty Inlet at the southern point of Whidbey Island and extends in a general northerly direction for ten miles to its junction with Port Susan and Saratoga Passage. From its entrance it extends for three and a half miles with an average width of two miles, and then expands into an irregular basin about six miles in diameter. The eastern part of this basin is filled with extensive flats, a large portion of which are bare at low water, and rise abruptly from deep water. These flats are intersected by several shifting channels forming the mouth of the Snokomish River.

The city of Everett, the county seat of Snokomish County, Washington, is located on the eastern shore of Possession Sound, about four miles from Point Elliott, and is the most important town on the sound. In order to reach tidewater, the Great Northern Railway Company constructed its road from the Great Lakes to the Pacific coast over Stevens Pass and followed the Snokomish River to its mouth. This location, having a sheltered harbor of ample depth with many miles of

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fresh water front and surrounded by thousands of acres of delta land, well adapted to terminal and manufacturing purposes, led to the building of the road to this point as its western terminus. For the accomplishment of this great undertaking credit must be given to James J. Hill. Hill was born in Wellington County, Ontario, in 1838. His boyhood days were spent on a farm. His parents were able to give him a fairly good education. His father died when James was only fifteen years of age, and, having met with financial reverses, left his widow and children almost without means. Thus the boy was thrown upon his own resources. He felt that the West would give him the best opportunities, and acting upon this conclusion, he left the old home and the country of his birth, and emigrated to St. Paul, Minnesota, then a mere village on the hem of civilization. For a time life was hard for him, but he met the situation with courage and a determination to make a place for himself. He began his career in St. Paul with no higher occupation than that of "roustabout" on the wharf, where he earned two dollars a day carrying wood and freight on his back from the wharf to the decks of the Mississippi steamboats. From this lowly beginning, he gradually but surely won his way to the presidency and principal ownership of a railway system which gridirons north Minnesota, connects with Lake Superior at Duluth, provides two tracks, through the Red River valley to the Canada line, traverses the whole of Dakota and through Montana as far as the Great Falls of the Missouri, and then through the canyon of the Missouri and the canyon of the Prickly Pear to Helena, and ultimately on to the oriental terminal at Seattle, connecting also with Vancouver on the north and Portland on the

VANCOUVER
HATCOVON

south. Over six thousand miles of track are represented by this great undertaking. To say that Hill superintended the construction of this gigantic railway would be to give but little idea of the work he accomplished in the years of its building. He was not only the prime mover and engineer of the undertaking, but he saw to every detail of it being carried out. He died a multimillionaire in St. Paul, in a mansion that cost more than a half million dollars and from the windows of which he could look down upon the old wharf where he once toiled so hard and honestly as a "roustabout."

Port Gardner Bay constitutes an excellent harbor for the city and is the entry port of the towns and camps of a rich mining belt within a district of thirty miles long by twenty miles wide. The Monte Cristo, Great Lake, Silver Creek, Troublesome, Sultan, Shillaquamish, and North Port mines send ores to its great smelter and in various ways contribute to the substantial growth of the city.

Explorations Around the Gulf of Georgia

Vancouver devoted considerable time to exploring two inlets to which he gave the names of Port Susan and Port Gardner respectively. The name of the latter has since been changed to Saratoga Passage. On a projecting point of this inlet an exploring party under Whidbey found a large Indian village. Upon landing on the opposite shore the white men were met by upwards of two hundred natives, some of them in canoes and others walking along the shore. These last were attended by about forty dogs, all of them shorn close to the skin like sheep. Next morning further up the inlet more than a hundred Indians visited them. The chief displayed great hospitality, and perceiving that Whidbey's party were at breakfast, presented them with water, roasted roots, dried fish, and other articles of food. The chief had two hangers, one of Spanish, the other of English manufacture, on which he seemed to set very high value. He manifested no small degree of curiosity in examining Whidbey's clothes and expressed a great desire to be satisfied as to the color of the skin they covered, making signs that Whidbey's hands and face were painted white, instead of being black or red like their own. When convinced of his mistake by the opening of Whidbey's waistcoat, his astonishment was inexpressible. Whidbey concluded that these Indians had not before seen any Europeans, though, from the different articles they possessed, it was evident that a communication with them had taken

place, probably by means of distant trading tribes. Still further up the inlet the explorers came to another populous village of natives, and several canoes came off with not less than seventy of them. They conducted themselves with the utmost friendliness, showing, by repeated invitations to their dwellings, the greatest hospitality, and making signs that they had plenty of food to bestow. In these entreaties the ladies were particularly earnest, and expressed much chagrin and mortification that their offers were declined.

On another branch of the inlet, named by Vancouver, Penn's Cove, the explorer saw two deserted villages, in one of which were found several sepulchers formed like a sentry box. Some of them were open, and contained skeletons of many young children tied up in blankets; the smaller bones of adults were likewise noticed, but none of the limb bones could be found. This gave rise to the opinion that these had been appropriated by the living inhabitants of the neighborhood to useful purposes, such as pointing their arrows or other weapons. The surrounding country, for several miles in most points of view, presented a delightful prospect, consisting chiefly of spacious meadows equally adorned with clumps of trees; amongst which the oak bore a very considerable proportion, in size from four to six feet in circumference. In these beautiful pastures, bordering on an expansive sheet of water, deer were seen playing about in great numbers.

There are now several small settlements located on Penn Cove. Coveland is at the head of it and San de Fuca on the north shore. Coupeville, the county seat of Island County, Washington, is beautifully located on the south shore. It has a population of about fifteen hundred people, and is the largest town on the island.

It was incorporated in 1910 with a population of one thousand and fifty persons. It is the chief distributing point of the island. In the immediate vicinity of this town are some of the richest and finest cultivated ranches in the state of Washington.

Vancouver, on the return of Mr. Whidbey and his party, had spent a fortnight in the examination of this inlet, which in honor of the Board of Admiralty of Great Britain who had commissioned him, he distinguished as Admiralty Inlet. This, as indicated by his chart, extends from Commencement Bay to the entrance to the Straits of Juan de Fuca. They then had to return about forty miles to enter upon a new field of inquiry. Vancouver thought that after the great fatigue that his people had undergone, they were well entitled to a respite. Accordingly, Sunday, June 3, was devoted to fishing and taking recreation on shore, and on Monday, the 4th, they were served with as good a dinner as the officers were able to provide for them, including a double allowance of grog to drink to the King's health, that being the anniversary of His Majesty's birth. On this auspicious day, Vancouver, accompanied by Mr. Broughton and some of the officers, went on shore about one o'clock, and pursuing the usual formalities observed on such occasion, with the discharge of a royal salute from the vessels, he took formal possession of the coast, from that part of New Albion, in the latitude of $39^{\circ} 20'$ north, and longitude $236^{\circ} 26'$ east, to the entrance of Admiralty Inlet, said to be the supposed Straits of Juan de Fuca; as likewise all the coast, islands, etc. within said straits, as well on the northern as on the southern shores; together with those situated in the interior sea they had discovered. To this interior sea Vancouver gave the name of the Gulf

of Georgia, and to the continent, binding said gulf, and extending southward to the 45th degree of north latitude, the name of New Georgia, in honor of His Majesty, King George III, who was much interested in the voyage.

On June 3, Vancouver's vessels sailed out of Possession Sound and proceeded toward Strawberry Bay but were delayed by adverse weather and did not arrive until the 8th. Meanwhile the launch and cutter were sent out under Puget and Whidbey to explore the adjacent shores. Strawberry Bay lies on the west side of an island, which because of an abundance of cypress trees was given by Vancouver the name of Cypress Island.

It is said by A. Frank Morris in *Western Tours*, that in passing Cypress Island there may be seen what appears to be a woman in a long white robe standing on the edge of a high cliff in the act of leaping into the waters of Rosario Strait four hundred feet below. There is an interesting and pathetic legend connected with this apparition. When Fidalgo, the Spanish Commander, first anchored his ship in Fidalgo Bay, these islands were inhabited by hostile Indians and each tribe was at war with the other. The two strongest and most warlike tribes were led by Chief Sacrinia, an old, pitiless, and crafty fighter, and Swift Canoe, a young chief hardly out of his teens but a noted and fearless fighter.

Old Sacrinia had an adopted daughter, a white girl, whom he had captured in infancy. As the years passed by, she was attended by Indian girls and given the same attention as if she had been the Chief's own daughter. When she was about fifteen years old, trouble arose between Sacrinia's people and those of Swift Canoe,

and in a battle fought near Port Angeles many were killed, and Swift Canoe was captured and carried to Cypress Island, the headquarters of the Sacrinians, where after a trial, he was condemned to death. During his confinement he was visited by members of the tribe, who were curious to see him, and among these was White Dove, the white daughter of Sacrinia. Swift Canoe smiled when he caught sight of White Dove, and like a startled deer, she noted the smile, returned it, and then fled to her own wigwam.

Eagle Feather, a young brave who stood guard over Swift Canoe, had long paid unsuccessful court to White Dove. He saw the two smiling at each other and this enraged him. He realized what it meant and that she might be the means of helping Swift Canoe to escape. On the third day of the trial, she came again in the morning and this time did not attempt to leave when the prisoner smiled at her. That night Eagle Feather doubled his vigilance and just before dawn when most of the guards were nodding drowsily, was startled by the appearance of a white apparition which seemed to float over the ground in the direction of the tent where Swift Canoe was a prisoner. For a few moments he stood in a dazed condition but gradually his brain cleared and a crafty smile came over his face and he sank to the ground to watch events. It was not long before the white apparition stealthily approached and cut the thongs with which Swift Canoe was bound. Silently the two stole from the camp on the shores of Secret Harbor, and as they left the danger zone, they went more swiftly and with less care, climbing to the top of the lime cliff, the highest point on the island's shore. Close at their heels, but silent as a Nemesis, went Eagle Feather, until as the two young lovers

reached the summit and stood on the edge of the big lime rock, he was but a few feet from them. Silently they stood for a few moments, then Swift Canoe drew the young girl to him and kissed her. After a few moments they commenced to talk, and from this Eagle Feather knew that White Dove had stolen a canoe and taken it around to the north side of the island near Eagle Rock, where are many nests of the big bird. Silently he crept close to the young couple until he could have touched Swift Canoe with his fingers. Then the thought came to him like a flash that he would push his enemy over the edge, where he would drop four hundred feet to his death. Just at this point a slight noise which had startled him had also been heard by the lovers. Swift Canoe hastily thrust White Dove into the shade of some bushes and crouched on the edge of the cliff, ready to spring on anyone who appeared. For several seconds no one moved, then gradually Swift Canoe rose to his feet. Hardly had he straightened up than Eagle Feather rushed at him. Both men were young, strong, supple and knew the wrestling game, and for a few minutes neither gained an advantage, when without warning, the abutting ledge on which they struggled broke and fell, carrying with it the two young lovers of White Dove. In a few moments far below a dull splash was heard as the heavy flat rock with its human freight dropped into the waters of the Sound. Then there arose a number of faces from behind adjacent rocks and bushes, showing that not only the guard, but the old chief and many of his warriors, had been silent witnesses of the grim tragedy. As they stepped from their several hiding places, the darkness which had been slowly giving way

to the light of day, was tinged with strong streaks of the magnificent gold and red of the Pacific sunrise, than which there is nothing more beautiful in the world. The old chief stood silent for several minutes, then pointing to the bush where White Dove lay hidden, he bade the Indians bring her out. She stood before him in her pale beauty, the white garments she wore clinging to her form, and her nut-brown hair hanging in a beautiful mass over her shoulders. The old man looked at her for a long time, then led her to the edge of the cliff and upbraided her as a traitor.

Turning towards the brink of the precipice and pointing down to the water, the old chief, with a quiver, commanded: "Jump!" The Indians, stoics though they were, were horrified, and the younger men among them cried out, but before anyone could interfere White Dove stepped to the edge of the cliff with a smile on her lips and spreading her hands out like the wings of a bird, leaped lightly from the precipice. The old chief stood with folded arms and looked into the face of the sun as it rose over the tree tops of Guemes Island; then, with the single word, "Come!" strode back to camp, followed by his awed people. No lamentations of sorrow were allowed by the stern but sad chief, but it was seen that he was fast failing, and one morning when his absence was noted, his trail was followed to the summit of the hill, and there on his knees, facing the sun, the old chief was found dead with a grim smile on his face. The next day members of the tribe who were returning from a hunting trip, reported seeing the body of White Dove floating on the face of the cliff about thirty feet from the top, and now, any time, if you are in a boat at sunrise and glance up near

the top of Eagle Cliff, you will see in the act of jumping to the water below "The White Lady of Cypress Island."

In tracing the voyage of Vancouver from Possession Sound to Strawberry Bay, attention is first directed to Admiralty Inlet. It connects the Straits of Juan de Fuca and Puget Sound, and extends in a general south-east and northwest direction from Point Wilson and Admiralty Head for about seventeen miles to Point-No-Point and the southern point of Whidbey Island, with an average width of three miles. Its shore is formed by Whidbey Island and is indented by several shallow open bights, affording neither shelter nor anchorage. The western shore is more broken and irregular, the principal inlets being Port Townsend at the northern part, and Port Ludlow and Hood Canal near the southern part. This inlet was first explored in the summer of 1790 by Alfarez Manuel Quimper, who entered it from the Straits of Juan de Fuca, and named it Señor de Santa Rosa. From a military standpoint the entrance to the inlet is well guarded and protected. At Port Townsend is located Fort Worden, across the inlet at Admiralty Head is Fort Casey, and south of that at Marrowstone Point is Fort Flager. These forts are within gunshot of each other and could completely prevent an entrance to the inlet.

After leaving Admiralty Inlet, Vancouver sailed through Rosario Strait. This strait was also discovered by Quimper in the summer of 1790, and he named it Boca de Fidalgo in honor of Lieutenant Salvador Fidalgo. The name was changed to Rosario Strait, and by that name it since has been known. The group of islands located between Port Townsend and the Strait of Georgia, formerly known as the Gulf of

Georgia, and the west coast of the state of Washington and the east coast of Vancouver Island, was designated on the earlier maps and charts, as the Haro Archipelago, in honor of Gonzalo Lopez de Haro. At a later date the name was changed to San Juan Archipelago, by which name it is now known. The body of water in which this group of islands is located is called Washington Sound and embraces the passages and bays northward of the eastern end of the Straits of Juan de Fuca. Its principal passage is Haro Strait. This strait is that which is commonly used by vessels, making the city of Victoria; it is also the widest and best equipped for navigation. Rosario Strait, formerly known as Canal de Rosario, the eastern passage, is principally used by smaller vessels running between Blaine, the settlements on the islands, Bellingham Bay and Puget Sound ports. The distance between these channels is about twenty miles and their length the same, making an area of four hundred square miles, which is full of islands, ranging in size from ten or twelve miles in length to mere trap rocks, having two or three pine trees. It is said that there are one hundred and seventy-two of these islands.

The Chatham arrived in Strawberry Bay on Sunday morning, June 10, with the loss of her stream anchor, and in the afternoon the boats that had been dispatched on the 7th with Mr. Puget and Mr. Whidbey returned from their survey. From the officers, Vancouver became acquainted with the fact, that (Deception Pass) the first inlet communicated with Port Gardner, by a very narrow and intricate channel, which, for a considerable distance, was not forty yards in width, and abounded in rocks above and beneath the surface of the water. These impediments, in addition to the great

rapidity and irregularity of the tide, rendered the passage navigable only for boats or vessels of small burthen. This determined all the eastern shore of the gulf to be an island, which in its broadest part, was about ten miles across. This, in consequence of the fact that Mr. Whidbey had circumnavigated the island, Vancouver distinguished by the name of Whidbey's Island.

Whidbey is the largest island of San Juan Archipelago. It has a very peculiar shape, with an extreme length, extending north from Possession Point on the south to Hoypus Point, a distance, following the lay of the land, of about thirty miles. Coupeville, the county seat of Island County, situated on Penn Cove, is the largest town on this island. Oak Harbor, further north, was named Oak Cove by Vancouver because of the fact that some of his young gentlemen found several oak trees at the head of the cove. The town of Oak Harbor is the center of a large farming and logging district. This island was one of the earliest places settled in the Admiralty Inlet region. In 1848, Thomas W. Glasgow made a canoe trip to it, built a cabin, sowed wheat and planted potatoes at a point nearly opposite to Port Townsend. He was driven from the island by the Indians. The first settler after Glasgow's attempt was Isaac W. Ebey who entered a claim on the island, likewise opposite to Port Townsend, October 15, 1850. R. H. Lansdale settled on Penn's Cove in 1851, and a large number of others, including Captain Thomas Coupe, founder of Coupeville, settled there in 1852 and 1853.

As has been stated, one way of entering Padilla Bay from Rosario Strait is through Guemes Channel eastward of Guemes Island, which channel separates

Fidalgo and Guemes islands. Vancouver makes no mention of either of these islands. Fidalgo Island was discovered by Quimper in 1790 and by him named in honor of Lieutenant Salvador Fidalgo, who during that year was actively engaged in northwest coast explorations. Mount Erie, located in the southwest part of the island has an altitude of one thousand, two hundred and fifty feet. On the southeastern part of the island is located the Swinomish Indian Reservation.

Anacortes, with a population of 4,196, according to the census of 1910, is the largest town and principal seaport of Skagit County. It was incorporated in 1891 and has grown steadily since. It is situated on Fidalgo Bay, an ideal harbor of ample depth to accommodate the largest sea-going vessels. It is chiefly devoted to lumbering and fishing and is admirably located for the latter industry. Vast quantities of salmon are captured in the nearby waters, and halibut and cod are brought in from the banks farther north and salted, dried, canned or kept in cold storage until put upon the market elsewhere. The city has fish canneries, drying and salting plants, a fertilizer and oil plant, cold storage plant, sawmills and shingle mills. The Great Northern Railway affords good railroad facilities for it.

One of the serious charges made against the many fish canning establishments of the Pacific coast has been that of the great waste of the by-products of the canneries. This led to the construction of two large establishments at Anacortes to use these. The Russian Cement Company of Gloucester, Massachusetts, manufacturers of the Le Page liquid glue, has here a great glue, oil, and fertilizer factory. The Robinson Fisheries Company owns and operates a similar plant, hav-

ing a capacity for handling one hundred tons of fish offal daily. The waste products, used by these establishments, are procured from the canneries from Tacoma to Point Roberts, from Bellingham to Port Angeles, and the Hood Canal district. Dogfish are caught in large numbers and used for this purpose. These fish, being of the shark species, were not formerly considered as edible. The fish oil and glue obtained by these establishments is sold everywhere, while the dry fertilizer goes largely to Europe and Japan, the latter country taking practically all that is made at the Anacortes plants.

Because of its extensive codfish packing houses Anacortes is referred to as "The Gloucester of the Pacific Coast." There are two of these packing houses, and they operate four ocean vessels each year on the codfish banks of Bering Sea. The vessels sail from home late in March or the first week in April and return with their catch early in August. They carry about one hundred and fifty men, including masters of the vessels, and eighty-five dories. They also carry nine hundred tons of salt. In one year they caught six hundred and thirty-one thousand fish, weighing 2,791,500 pounds, which upon arrival were worth \$83,745. They also brought 18,400 pounds of salted cod tongues worth \$1,104.00. These packing houses are busy all the year and ship their products to all parts of the world. It is claimed that Anacortes is the greatest salmon canning center in the world. It has seven canneries with a capacity to pack twenty thousand cases of canned salmon daily with forty-eight one pound cans to the case. This requires two hundred and forty thousand salmon daily of an average weight of six and one-third pounds.

One of the enjoyable features of living on Puget Sound is the fact that sea foods are available at all times. There is the greatest variety of fish. Oysters are also raised in beds at various points and may be had in season at low prices. Clams may be dug by anybody wishing them. Salt water crabs, which are such a delicacy in the East, may be caught during the season in the bay about Anacortes. Fidalgo and Utsalady crabs are now regarded as the choicest taken in the Puget Sound waters. They are caught in traps built of wire and tarred netting, and each fisherman operates about a dozen of these traps, setting them in feeding grounds in which the water is from thirty to sixty feet deep. The crab fishermen of Anacortes use rowboats, each fisherman having his own complete outfit, and each boat returns to port every evening laden to the guards with its crawling freight. Each crab is measured and the three commercial sizes are separated and shipped in different boxes, each box carrying sixteen dozen, weighing about six hundred pounds. No crabs measuring less than six inches across the shell are marketed, the sizes being six, six and a half, and seven inches or more, the largest Puget Sound sea crabs often measuring more than eight inches in diameter.

North of Fidalgo Island, across the Guemes Channel, is Guemes Island with Padilla Bay to the east and Bellingham Channel to the west. This island is almost triangular in shape, with one point of the triangle extending to the south, one to the east and the other to the north. This channel and island were named by the Spanish Lieutenant Francisco Elisa, in honor of Pacheco de Padilla Guemes Horcasitas, Viceroy of Mexico from October, 1789 to July, 1794. Guemes,

opposite to Anacortes, is the principal town on this island and to the north of it at Clark's Point is located an Indian village.

Because their anchorage in Strawberry Bay was exposed and supplied them with no sort of refreshment excepting a few wild onions or leeks, Vancouver quitted it on June 11 and sailed up the Gulf of Georgia to the northwest to a more commodious situation on a bay which, because of the abundance of black birch upon its shores, he named Birch Bay.

After anchoring the vessels in Birch Bay, Vancouver directed Mr. Whidbey, in the Discovery's cutter, attended by the Chatham's launch, to proceed to the examination of that part of the coast unexplored to the southeast. Upon his return Mr. Whidbey reported that the broken part of the coast that he had been employed in examining, was found to extend but a few miles to the westward of the spot where his former researches had ended, and that altogether it formed an extensive bay, which Vancouver distinguished as Bellingham Bay, probably in honor of Sir William Bellingham, who was comptroller of store-keeper's accounts at the time of Vancouver's departure from England.

Bellingham Bay was first explored by Alfarez Manuel Quimper in the summer of 1790, and named Bahia de Gaston. I have visited the bay and the city of Bellingham several times. The last visit was made in the summer of 1918. We approached the bay through Guemes Channel late in the evening. The shipyard and other coast concerns, as well as the city, were sparkling with thousands of electric lights; the sight was most enchanting. This beautiful bay is about ten miles long and five miles wide and affords ideal an-

chorage. An additional advantage is the fact that the *teredo*, destroyer of waterfront property, is banished from the bay by the cold fresh waters of the Nooksack and other streams that flow into it. The quiet beauty of the entrance to Bellingham Bay, the cliff-lined, curving outlines of Deception Pass, the curious rock formation in the neighborhood of Anacortes, the rock reefs, isles, and cliffs of Chakanut and the splendid view of the dreamy, romantic islands towards the west comprise a never-to-be-forgotten wealth of scenic diversion.

Bellingham City is located in the northwest corner of the state of Washington and is the commercial center of Whatcom and San Juan counties. It was formed, December 28, 1893, by the consolidation of the towns of Whatcom and Fair Haven. It now has a population of 25,000. The city covers about twenty-three square miles of territory and is the business center of Whatcom County, of which it is the county seat. The Great Northern, Northern Pacific, Canadian Pacific, and Bellingham Bay and British Columbia railroads, the latter now a branch of the Milwaukee system, all enter the city. Electric railroads operate in outlying sections for long distances, giving the merchants large volumes of suburban trade. The principal educational establishment is the Bellingham State Normal School, the largest in Washington.

Beautiful Lake Whatcom skirts the city, offering ideal haunts for summer camping and fishing. The rich soil surrounding Bellingham is particularly adapted to bulb culture, the United States Government bulb farm in this vicinity being one of the spring attractions of the city. A noted floriculturist of the United States Department of Agriculture has stated that the success of the Bellingham gardens furnishes

abundant proof of the theory that the soil of Whatcom County is the equal, if not the superior, of that of Holland for bulb culture, and that the only thing necessary to make this section world-famous in this line, is to apply the expert knowledge of the Dutch to the productive soil of Whatcom County.

In the Puget Sound country there is one condition which immediately appeals to tourists and newcomers, and that is an almost entire absence of all sorts of insects, there being exceptionally few flies, mosquitoes, gnats, and other pests. This obviates the necessity for door and window screens. All of this is claimed by the citizens of Bellingham, and, in addition to this, they say they have no poisonous reptiles nor plants to contend with.

It is claimed that Bellingham has the largest salmon cannery and the largest shingle mill in the world, one of the four largest sawmills in America, the largest planing mill on the Pacific coast, and the largest and finest theatre west of the Mississippi River. This theatre was built at a cost of one hundred and fifty-two thousand dollars and will seat twenty-two hundred persons.

On June 12, after having despatched Mr. Whidbey from Birch Bay to examine that part of the coast unexplored to the southeast, Vancouver in the yawl, accompanied by Mr. Puget in the launch, directed his researches to the main inlet of the Gulf of Georgia. The most northerly branch of the inlet attracted their attention but it caused them little delay. It soon terminated in two open bays, now known as Semiahmoo and Boundary bays.

Semiahmoo Bay is funnel-shaped and is connected at its eastern end by a narrow channel with Drayton

Harbor. This harbor is a small basin-like cove formed by the extension of a sand spit northward from Birch Point. It is about two miles in diameter, but flats, bare at low water, occupy a large area in the eastern and southern parts of the harbor. Several long wharves, some of them occupied by canneries, extend from the north shore to the edge of the flats. The town of Blaine is situated on the northern shore near the entrance. The south bluff of the harbor terminates at its east end in a long, low spit, more than a mile long. This spit for a short time in the summer of 1885, during the gold craze, was the site of Semiahmoo City. Several buildings and canneries constituting the town of Semiahmoo, at present are at the northern end of the sand spit. A considerable part of Semiahmoo and nearly all of Boundary Bay lie northward of the international boundary. The town of Blaine, located on the line, is the station of the Great Northern Railway where trains stop and the baggage of passengers is examined by the respective government customs officers.

The word Oregon is said to have occurred first in 1778 in Captain Jonthan Carver's *Travels through the Interior Parts of North America*, where it denoted a large river which that adventurer had heard the Indians of the upper Mississippi mention. The Missouri was probably intended, but William Cullen Bryant in 1818 in "Thanatopsis" applied it to the Columbia River. Actual settlement of the Oregon country by New Englanders began in 1832 and a Methodist Mission for the Indians was established in 1834 at Salem. Great Britain made claims to the country, and this was the beginning of the International Boundary Question, which in 1844 was a prominent factor in the presidential contest, the Democratic party

insisting on extending the claim of the United States as far north as latitude $54^{\circ} 40'$. The question, however, was amicably settled, June 15, 1846, by the United States and Great Britain, in which settlement the boundary line between the United States and that of her Britanic Majesty was to be continued westward along "the 49th parallel of north latitude to the middle of the channel which separates the continent from Vancouver's Island and thence southerly through the middle of the said channel and of Fuca's Straits to the Pacific Ocean." That parallel of latitude crosses Boundary Bay — hence the name.

Point Roberts, named by Vancouver after a former commander of the *Discovery*, is the termination of an easily distinguished promontory which stretches south-westward from the delta of Fraser River. The eastern point of the promontory is a remarkable white cliff, two hundred feet high, its summit being crowned with trees. From it the land gradually falls westward and terminates in Roberts Spit, a low shingle point, within which is a small space of level clear land. Roberts Bank, formed by the alluvial deposits of Fraser River, extends from Roberts Spit in a slight curve for nine and a half miles in about a 300° true direction to the Sand Heads; at this point the edge of the bank is four and a half miles from the shore; it then takes a general north direction for a further distance of twelve miles and forms Point Grey. The portion of the bank northward of Fraser River is named Sturgeon Bank. There is a granite monument twenty-five feet high erected on the summit of Boundary Bluff. It marks the forty-ninth parallel of north latitude, the boundary between the British and United States possessions. Attention will always be attracted to Point Roberts because of the

fact that this boundary line cuts across it south of Fraser River, thus giving this important point to the United States, while the balance of the peninsula belongs to the Dominion of Canada.

At five o'clock in the morning of June 13, Vancouver directed his course to the eastern shore and landed about noon on a low bluff point which formed the south point of an extensive sound, with a small arm leading to the eastward. The point was named Point Grey in compliment to a friend, Captain George Grey, of the Royal Navy. Upon this point the British Columbia University is now located. The outlook from this point is one of the most beautiful upon the northwest coast.

Vancouver, after describing Point Grey, says that the intermediate space between it and Port Roberts was occupied by a very low flat which extended behind Point Roberts, and joined the low land in the bay to the eastward of that point. There were two openings between the two points. These he says could only be navigable for canoes as the shoal continued along the coast to the distance of seven or eight miles from the shore, on which were lodged, and especially before the openings, logs of wood, and stumps of trees innumerable. This is a description of the mouth and delta of the Fraser River. Vancouver, however, did not discover and recognize it as such. On his return trip from this excursion to the north, Friday, June 22, he met the Spanish explorers Galiano and Valdes, near Texada Island, and showed them the sketch he had made of his excursion to the northward, and pointed out the only spot which he conceived had been left unexamined, nearly at the head of Burrard's Channel. They seemed much surprised that Vancouver had not

found a river, said to exist in the region he had been exploring, named by one of their officers, Rio Blanca, in compliment to the then prime minister of Spain.

Fraser River rises in the Rocky Mountains about midway along the eastern boundary of British Columbia and runs almost due west in two branches for some two hundred miles. There they join and flow south-erly through the Cariboo, Lillooet, and Yale districts, till near Chilliwack it abruptly turns to the west and formerly found an outlet through three channels into the Strait of Georgia. Several tributaries of importance add to its volume, among them being the Thompson draining the Kamloop and Shuswap Lake areas, the North Fork, Chilcotin, Nechaco, Black Water, Quesnel, Lillooet, Nicola, Harrison, and Pitt. From its last westerly turn it flows through a wide alluvial plain mainly deposited from its own silt. It is navigable for vessels drawing twenty feet of water to New Westminster, about fifteen miles from its mouth, and light draught boats can ascend it to the town of Yale ninety-five miles further inland. Another stretch in the interior of one hundred miles is also navigable for small crafts from Soda Creek to Fort George Canyon. Its total length is about seven hundred and fifty miles. In point of magnitude and commercial importance, it is second only to the Columbia River on this coast.

As we have already seen, the Spanish explorers Galiano and Valdes discovered the Fraser River in the summer of 1792; they, however, did not enter or navigate it. It was left to Alexander Mackenzie to, in part, navigate it. In 1793 he ascended Peace River to the headwaters of the Parsnip and, on June 11, in latitude $54^{\circ} 24'$, reached the "Height of Land," and the apex of the great shed which parts the falling waters, sending

those on one side to the east and those on the other side to the west, and from there he voyaged on the Bad River and reached the Fraser River, June 17, and embarked upon it the next morning. He imagined it to be the majestic Columbia that was flowing riotously at his feet; and so thought Simon Fraser when he first saw it thirteen years afterwards, and so Fraser continued to think until 1808 when he descended it and gave it his name. Mackenzie followed it for some days, but, learning from the natives that the river was very long and the current rapid and dangerous and that it ran toward the midday sun, he decided to leave it and voyage by land, and, on July 4, set out on a journey which ultimately brought him on July 8, to the tide waters of the Pacific in Bentick Arm. Thus was completed the first crossing of North America north of Mexico.

Simon Fraser, after whom the Fraser River was named, was born in 1776, at Bennington on the Hudson, New York. His father was a United Empire Loyalist of Scottish stock, who died in prison after his capture by the Revolutionary army at Burgoyne's surrender. Simon spent his early years at Cornwall, Upper Canada. At the age of sixteen he became a clerk in the Northwest Fur Trading Company, earning a partnership in the company ten years later. Then it was that he entered upon his life in the far west at Grand Portage and Lake Athabasca. In 1805, he was sent to build posts west of the Rocky Mountains in British Columbia, then known as New Caledonia, and to follow the river which Mackenzie mistook for the Columbia down to the sea.

Fraser's expedition was begun in the autumn of 1805. The succeeding winter was spent at the Rocky Moun-

tain House on the Peace, then the westernmost distributing depot of the Northwest Fur Company. The spring of 1806 was very backward, the ice in the river melted very slowly, and the conditions were such that Fraser did not advance on his expedition before May 21. On that day he and his companions set out in two canoes. On the 23rd, they turned southward up the south fork of the Peace. They passed the divide between Arctic and Pacific waters, reached the stream that was supposed to be the Columbia, and, on June 11, came to the mouth of the Nechaco, or Stuart River, and, entering it, encamped near where now stands Fort George. From this point they entered regions that had not before been explored by white men. From here they first explored Stuart River and located and built Fort St. James at the southeast end of Stuart Lake. September 3, Fraser proceeded to Fraser Lake, explored it, and constructed Fort Fraser near the east end of the lake. During the ensuing winter fort building went forward in a satisfactory manner. During the winter of 1807, Fort St. George was built at the confluence of Stuart and Fraser rivers. It was here that Fraser gathered his forces and supplies and made ready for his voyage of further exploration down the hitherto unexplored river. He embarked about the middle of May, 1808. The natives he met reiterated the assertion that had before been made to Mackenzie that the navigation of the river was impossible and this they well might have done for Fraser says, "The tremendous gulfs and whirlpools which are peculiar to this river are ready every moment to swallow a canoe with all its contents, and the people on board, and the high rocks render it impossible to stop the canoe or get on shore even when it is stopped." Fraser found it

necessary several times to leave the stream and carry the boats and luggage past impassable places. Constantly he was reminded by the Indians of the impossibility of making the voyage, but he persisted until near the mouth of the stream and then turned back.

Conditions have changed since the days of Simon Fraser. Now, more than a century and a quarter since then, travelers are carried through the perilous part of the Fraser River Cañon in luxurious passenger coaches. I have thus passed through it many times over the Canadian Pacific Railway and have had many opportunities of viewing the cañon and river from a car window. Since I first passed through it, a second railway has been built on the opposite side of the cañon. Above this is the picturesque old Cariboo Trail, built by the British Columbia Government at an enormous cost, to accommodate the gold hunters of 1858 and the sixties. In passing through the cañon, one who looks from a car window down into the abyss with its swirling waters madly racing through, wonders at the courage and admires the fearlessness of the men who first dared to attempt their navigation in a frail canoe.

The entrances to the Fraser River have almost constantly been changing. In 1912 it was entered between Robert's Bank and Sturgeon Bank at a distance of about four and a half miles from Point Garry lighthouse on the north side of the river. North Ann is another entrance to the river, navigable with local knowledge for vessels of light draught at high water. It has a length of about fourteen miles. Its junction with the main stream occurs immediately below New Westminster, from whence it runs in a westerly direction, and enters the Strait of Georgia, through Sturgeon Bank, about five miles northward of the Land

Heads and southward of Point Grey. Two low partially-wooded islands lie in its entrance and divide the channel into three arms. These islands constitute the Richmond municipality, a suburb of the city of Vancouver.

In the morning of June 13, while proceeding up the eastern branch of Howe Sound, Vancouver was met by about fifty Indians in canoes. They conducted themselves in a friendly manner and presented the explorers with several cooked fish. They manifested a great desire to imitate the white men's actions, and one of them even consented to fire a musket, though with much fear and trembling. They minutely watched all Vancouver's transactions and examined the color of the skins of his party with infinite curiosity. Vancouver concluded that his party were the first people from a civilized country they had ever seen. He and his men landed for the night about half a league from the head of the inlet and about three leagues from its entrance. Some of the young gentlemen, however, who preferred the stony beach for their couch, without duly considering the line of high water mark, found themselves incommoded by the flood-tide, of which they were not apprized until they were nearly afloat; and one of them slept so soundly that Vancouver believed he might have been conveyed to some distance, had he not been awakened by his companions. The inlet thus explored was named by Vancouver, Burrard's Channel, after Sir Harry Burrard of the Royal Navy.

This channel now known as Burrard Inlet, is the first great harbor which indents the shores of British Columbia north of the 49th parallel of latitude. It differs from most of the great sounds of this coast in being comparatively easy of access to steam vessels of

any size. Its close proximity to Fraser River and its having become the terminus of the Canadian Pacific Railway, likewise add considerable to its importance. It is divided into three distinct harbors, namely, English Bay, or the outer anchorage; Vancouver, above the First Narrows; and Port Moody at the head of the eastern arm of the inlet, which formerly was the terminus of the railway.

On June 14, Vancouver entered Howe Sound, named by him in honor of Earl Howe, who is chiefly remembered by Americans as the commander of the British fleet that aided in the capture of New York City in 1776. The low fertile shores to which the explorers had become accustomed, "here no longer existed; their place was now occupied by the base of the stupendous snowy barriers, thinly wooded, and rising from the sea abruptly to the clouds; from whose frigid summit, the dissolving snow in foaming torrents rushed down the sides and chasms of its rugged surface, exhibiting altogether a sublime, though gloomy spectacle, which animated nature seemed to have deserted. Not a bird, nor living creature was to be seen, and the roaring of the falling cataracts in every direction precluded their being heard, had any been in our neighborhood." Towards noon Vancouver considered that they had advanced some miles within the western boundary of the snowy barriers, as some of its rugged lofty mountains were now behind and to the southward of them.

I have voyaged through Howe Sound from Vancouver to Squamish and return. Our vessel left Vancouver with about three hundred passengers, composed chiefly of religious enthusiasts, destined to Bowen Island for a day's outing. Evidently they had been told that sea-sickness could be avoided by smiling, for

most of them had pinned on them a badge marked "Keep Smiling." They were a noisy and seemingly a happy crowd. They sang long and loud their "hallelujahs" and uttered their "amens" with much fervor. We arrived at Bowen Island about 11:30 A. M. and while there had served to us on the boat for seventy-five cents one of the best dinners that I have ever eaten on a steamboat. The day was a most beautiful one and the voyage a most enjoyable one. The captain was a most obliging gentleman and proved to be very communicative. He assumed to have a comprehensive knowledge of Vancouver and his explorations. He told me how he had come into possession of a "life history of Vancouver," and how it had interested many persons to whom he had loaned it. This excited my curiosity and I asked him to loan it to me, which he kindly did. It proved to be Professor Meany's *Vancouver's Discovery of Puget Sound*, a copy of which I had in my library. He also told me that he had dug up an iron kettle which Vancouver had left at his landing at the beach in English Bay, Burrard Inlet. The fact is that no such landing was made, and of the only one made in the inlet Vancouver says: "We landed for the night about half a league from the head of the inlet, and about three leagues from the entrance. . . . The shores in this situation were formed by steep rocky cliffs that afforded no convenient space for pitching our tent, which compelled us to sleep in the boats." He also told me that Vancouver narrowly escaped having trouble with the Indians in Howe Sound, and would have had it, but for the fact that he threatened to fire a swivel at them. He pointed out the place where he said that this incident occurred. This also was a fictitious story.

Howe Sound lies close northward of the entrance to Burrard Inlet. It is an extensive sheet of water penetrating the continent in a northerly direction for twenty-four miles, and it is almost entirely hemmed in by rugged and precipitous mountains rising abruptly from the water's edge to elevations of four thousand to more than six thousand feet. This sound is notable for the depth of its water and its many islands.

The Britannia Mines anchorage, at which our vessel called both as we voyaged to and from Squamish, is the most important landing, commercially speaking, in Howe Sound. The importance attaching to this landing grows out of the fact that located at and running back for several miles from this point, is to be found the world famous Britannia Copper Mine and its equipment. Copper in this region was first discovered in 1888, but it was not until ten years later that actual work on the property was begun. The payroll of the Company numbered eighteen hundred men. Provision must necessarily be made for the housing and entertainment of these producers, and this has been done. For the entertainment of the residents there are recreation halls and moving picture centers. This realization of the twentieth century civilization is in evidence near by where Vancouver only found "near forty of the natives" who offered him "some fish, their garments, spears, bows, and arrows, to which these people wisely added their *copper ornaments*."

Howe Sound carries a depth of water above one hundred fathoms nearly to its head, where the Squamish River from the north discharges its water, carrying with it its detritus, and by so doing has made a mud flat which extends into the sound for about a half mile. The Pacific Great Eastern Railway has its southern

terminus at this point, and reaches a deep water landing by a roadway constructed on piles driven into the mud. Northward of the Squamish Landing is Mount Garibaldi, the nearest example of an extinct volcano within easy reach of Vancouver. June 16, Vancouver resumed his course to the northwestward along the continental shore of the Strait of Georgia, from Point Gower to Welcome Point, a distance of about fifteen miles. Vancouver takes no account of the intervening space except to say, "This part of the coast is of a moderate height for some distance inland, and it frequently jets out in low sandy projecting points." One of the projecting points is Rock Point next westward of Point Gower. The White Islets are two bare rocks, fifteen feet high, with deep water close to them, situated one and a half miles off shore and five miles westward from Point Gower. A white occulting light is exhibited on the western of these islets. It is known as the Seechelt Light. Four miles northwestward of Seechelt Light is Trail Bay between Mission Point and the Trail Islets. These islets, four in number, lie a little more than half a mile off the western end of the bay, and if necessary small vessels may drop an anchor inside the easternmost in twelve fathoms of water. I visited Seechelt Bay on the steamer Chilco. There is a very marked drop in the land at the head of the bay, across which, by a portage of half a mile, the Seechelt Indians carry their canoes into Porpoise Bay at the head of Seechelt Inlet. The Seechelt Mission is located at this point, and excursion steamers often visit it. The Mission has a large Roman Catholic Church in which the first representation of the Passion Play was given in 1890. Native communicants came from all parts of British Columbia for these religious serv-

ices, which occupied three days. The play was repeated at the mission opposite Vancouver in 1891, and at Mission Junction on the Fraser River in 1892. There are about two hundred and fifty of the Seechelts, who are wards of British Columbia.

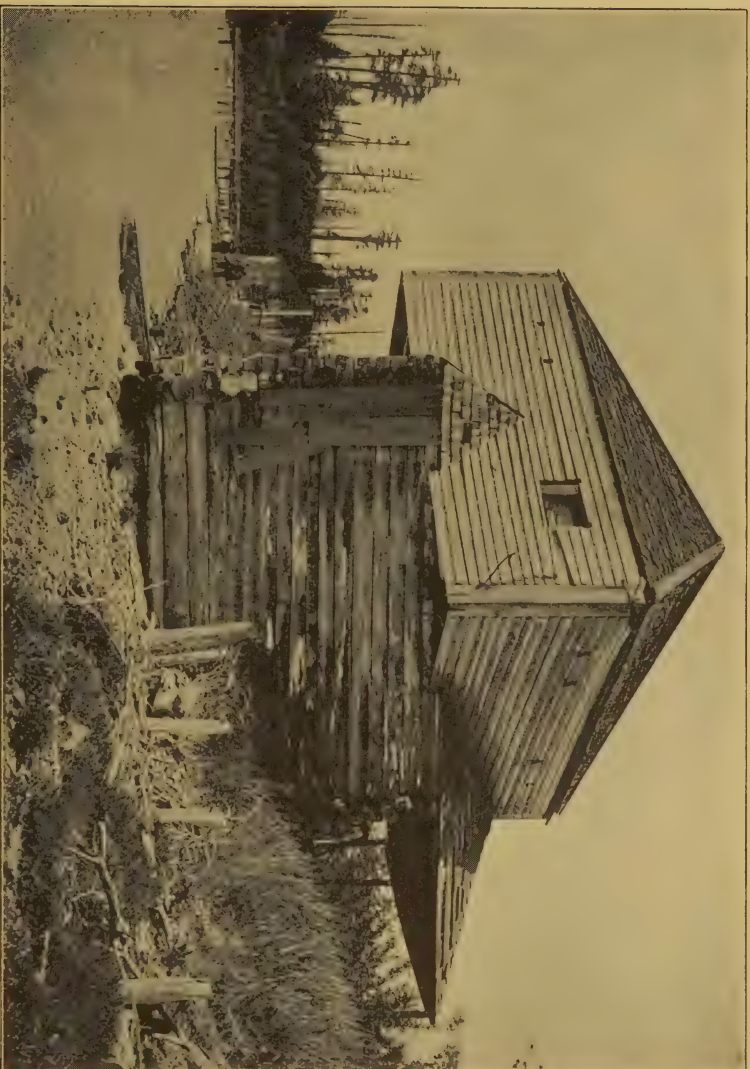
On the afternoon of June 16, Vancouver entered Malaspina Strait, which is named after an Italian navigator who, in 1791, commanded a Spanish expedition that searched for the Northwest Passage. Next day Vancouver entered what is known as Agamenon Channel and came to an inlet which he named after Sir John Jervis, one of the most celebrated of British naval officers. The width of this inlet caused Vancouver to hope that he had discovered a breach in the range of snowy mountains, but this hope was disappointed by their coming to the inlet's head. Lack of provisions forced them to turn back toward the ships at Birch Bay, distant more than a hundred miles. The surrounding country presented an equally dreary aspect with that in the vicinage of Howe's Sound. The cataracts here rushed from the snowy mountains in greater number and with more impetuosity than in Howe's Sound; yet the color of the water was not changed, though in some of the gullies there was the same chalky aspect. The pine, which flourishes where no other tree can find soil to sustain life, holds but a feeble and uncertain foothold here; and it is not uncommon to see whole mountain sides that have been denuded by the blasts of winter, or the still greater destruction of the avalanche which accompanies the thaw of summer.

On June 23, Vancouver reached the ships in Birch Bay after having traversed in this expedition upwards of three hundred and thirty miles. During his absence the other boats of the *Discovery* and *Chatham* had been

engaged in attempting to gain some further knowledge of the numerous islands in the region round about, but these were found to be so numerous as to preclude any correct examination. Lopez, Shaw, Orcas, San Juan, Saltspring, Seturna, Mayne, Galiano, Valdes, and Gabriola are the most considerable of these islands.

San Juan Island, the largest of the Washington Sound group, is about thirteen miles long, with a greatest width of six miles. It is rugged and partly wooded, with numerous elevations ranging from four hundred to one thousand feet in height. The northern end of the island is indented by several small bays, which with the exception of Roach Harbor, are shoal and of no commercial importance. At Roach Harbor a large amount of lime is made, and in addition there is a barrel factory. It has been estimated that more than half a million barrels of lime are annually shipped from the island. A monument has been erected on this island marking the last scene of its occupation by the British, and a blockhouse used for its defense is yet to be seen. Another interesting thing to be seen on this island is the Washington Rock, where centuries ago nature chiseled the prototype of "The Father of his Country."

San Juan County, Washington, was organized October 31, 1873. By the act of the legislature creating it, it was provided that it should comprise the "De Haro Archipelago, hitherto known as the disputed islands." The last phrase of the preceding sentence calls attention to some interesting facts in American history. As we have already seen, the question of the boundary line between the United States and Great Britain was amicably settled June 15, 1846. By that settlement it was agreed that the line was to be continued westward



BLOCKHOUSE ERECTED BY ENGLISH NEAR ROACH HARBOR, SAN JUAN ISLAND
Used during the Oregon Boundary Dispute.

along "the 49th parallel of north latitude to the middle of the channel which separates the continent from Vancouver's Island, thence southerly through the middle of the said channel and of Haro's Straits to the Pacific Ocean." This treaty appears to have been made under the impression that there was only one channel between the continent and Vancouver Island. Subsequently a contention arose between the two governments as to the construction of the treaty. Both countries claimed ownership of San Juan and other islands. The earliest trouble in regard to this arose in 1854, when the American collector of customs learned that several thousand cattle, sheep, and hogs had been shipped to San Juan Island without compliance with the customs regulations of the United States.

The final trouble, however, arose in 1859, when a pig belonging to Charles J. Griffin, a representative of the Hudson's Bay Company, residing on the island, got into the potato patch of Lyman A. Cutler, a citizen of the United States, who also was a resident of the island. Cutler told Griffin to keep the pig out of his potato patch, to which Griffin answered, "Keep your potatoes out of my pig." Instead of doing so, Cutler, with his rifle, killed Griffin's pig, and then offered to pay for it. Griffin refused Cutler's offer and demanded the payment of one hundred dollars, which Cutler refused. That afternoon Cutler was called upon by a high official of the Hudson's Bay Company, who had just arrived on the island in her majesty's ship *Satellite*, and who threatened to arrest him and take him to Victoria to be tried. Cutler replied that if he attempted this he would shoot him, and reached for his rifle as if he meant to carry his threat into immediate effect. Cutler was not further molested, but the matter was

reported to General Harney, who had taken command of the new military district of Oregon with headquarters at Port Vancouver. He established a military post on the south end of the island, and Captain Pickett, afterward known to fame as the hero of Gettysburg, was placed in command of it. An English camp was established on the north end, and ships kept guard in both harbors until 1871. This joint occupation of the island was arranged by Lieutenant General Winfield Scott, Commander-in-Chief of the Army of the United States. In the meantime, the two camps maintained the friendliest social relations. In 1871, the matter of dispute by mutual agreement was referred to the Emperor of Germany, as an arbitrator for settlement. His decision was in favor of the contention of the United States.

San Juan County as it is now recognized is composed of the three large islands, San Juan, Lopez, and Orcas, and several smaller ones, and has about two hundred square miles of territory. The islands have soil and timber not different from the mainland. Heavy timber in the forests, clay loam in the bottoms, shot clay, ledges of lime rock and mineral form the hills and hillsides, and great shoals of fish in the waters are the foundations for the prosperity of its citizens. All parts of the county are well served by steamboats. Friday Harbor on the southern shore of San Juan Island one mile westward from Turn rock is a small cove one mile long and nearly as wide. A small settlement, by the same name, the county seat of San Juan County with a post office, is located on the southern shore of the cove.

The City of Vancouver

Rounding Point Grey from the southward, a vessel enters Burrard Inlet upon the southern shore of which is located the city of Vancouver. I entered this city over the Canadian Pacific Railway, Tuesday morning July 11, 1911. At six o'clock the chimes of a distant church added much to the charm of the occasion. I walked through the city and enjoyed the roses, which were in full bloom. Then I made a hasty visit to Stanley Park, and at ten-forty left the city for Seattle on the steamship Iroquois. That was my first introduction to the waters of the Pacific Ocean. It was on this voyage that I first saw the line which so distinctly distinguishes the fresh water of Fraser River from the salt water of the Strait of Georgia. The afternoon was pleasantly spent on the deck of the Iroquois. After she had passed Victoria I had a fine view of Mount Baker to the northeast and Mount Olympus to the southwest. Both were snow-capped and in the sunlight presented a most impressive appearance. Later in the afternoon I saw Mount Rainier with her hoary head lifted over fourteen thousand feet into the ethereal blue. Thus it was in one afternoon I saw the four distinctive features of a voyage from Vancouver to Seattle, not making mention of the passage through Active Pass, which to the newly inducted voyager is quite as interesting as either of the others. I have visited the city many times since then.

The city of Vancouver was formerly known by the name of Granville. In 1886, at the suggestion of Sir

W. C. Vanhorn, the chief executive of the Canadian Pacific Railway, it was changed to Vancouver, in honor of Captain George Vancouver. Its first settler was John Morton, who built a log cabin near the waterfront, where is now located the establishment of a large trading company. The land he owned is now worth, in places, four thousand dollars per front foot. Until the time of its incorporation in 1866 the site of the city was covered with a forest, the denseness of which may be understood and appreciated by making a visit to Stanley Park, where primitive conditions still exist. The clearing of such a forest and making it a habitable site was no easy undertaking. What it meant can better be realized by what Commander R. C. Mayne has said about clearing the site for New Westminster. "Of the severity of that labor," he says, "no one unacquainted with the difficulty of clearing the bush as it exists in British Columbia can form an accurate conception. Falling of the trees form but a small part of it. When they are down, they are of course, with the scanty resources at the settler's command, too large to be removed, and they have to be sawn and cut into handy blocks for removal or burning. That done the hardest work yet remains. In forests such as these the roots of the giant trees have been spreading underground for ages, forming a close and perfect network some eight or ten feet beneath the surface. To dig this mass of interlaced roots up would defy the strength and patience of ordinary men; and it is only the wonderful dexterity of the Canadian – and, indeed of the American generally – in handling his axe that enables him to enter upon, far less accomplish so difficult a task."

From May to July, 1886, the growth of Vancouver was very rapid, but in July a fire, spreading from the

surrounding forest, swept away every house but one in the place, and, with this one exception every building now seen in the city has been constructed since then. Phoenix like it has grown to be a city with an estimated population of one hundred and twenty-five thousand people. Ships lie banked along its wharves, each emptying its commerce and swallowing a load of precious freight to world scattered ports. No seaport in America has a more wonderful harbor; it is claimed that it has the third finest harbor in the world.

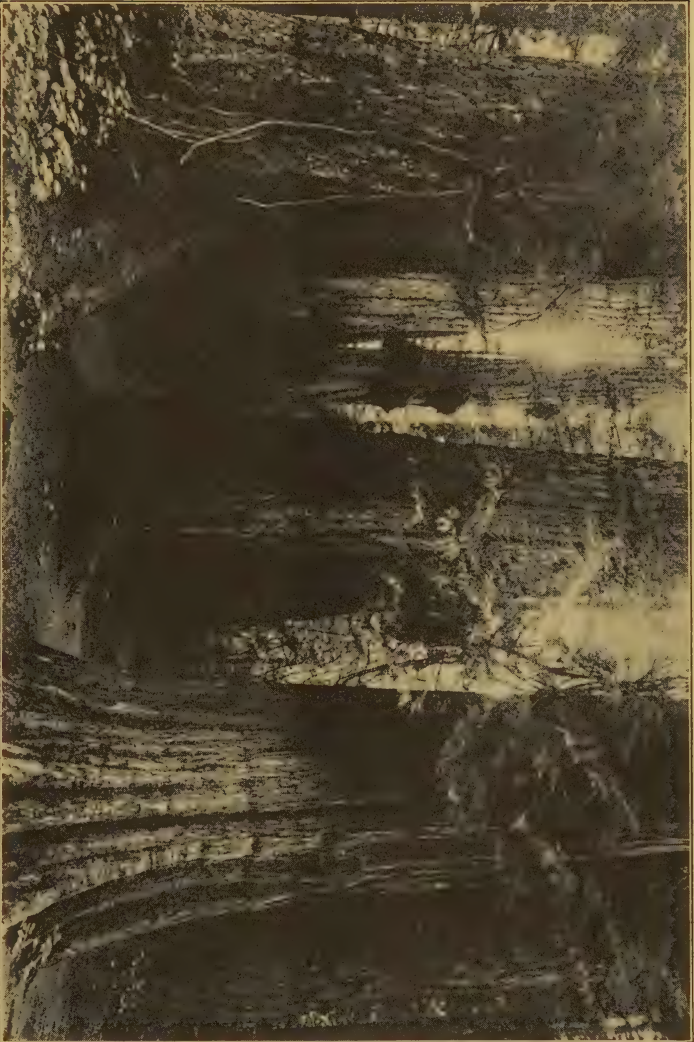
In at least two respects this city is unique. It has an underwater twenty-five mile cable for telephonic communications between the city and Vancouver Island. The other unique feature is that the revenues of the city are raised by the single tax system, that is by a tax levied upon its real estate.

The city has close at hand a water supply which is capable of producing one hundred thousand horse power. It has an ample supply of the best water, which is brought into it from a mountain stream by means of pipes laid under the Inlet.

The city is favored with mountain scenery and other delights attaching to the proximity of mountains in a degree enjoyed by few other cities of this country. It would be difficult to give an adequate description of the scenery of the mountains standing just across the Inlet. Capilano Canyon is one of the wonders of this continent. Thousands of the residents of Vancouver visit this place almost every week and seem never to tire of its wonderful scenery. I have visited it twice and crossed it on its wonderful suspension bridge. One of the recreations offered to tourists is mountain climbing. Ascents sufficiently interesting and arduous to satisfy the average person can be made in a day, start-

ing from the city after breakfast and returning in time for supper. But that which interested me more than mountain climbing was a visit to Stanley Park. My first visit to it was in 1911 but it was brief and unsatisfactory. I visited it again July 18, 1912. I had heard marvelous stories about it, and I wished to verify them or be able to say that they were not "faked." To do this I was up at four o'clock in the morning for a walk to and through the park. None except the milkmen were moving in the streets at that hour, and when I got into the park, I found a reign of profound stillness, except that the birds were chanting their morning anthems.

A guide board with an index hand pointed the way to the "big trees." The path called Tatlow Walk led into a dense forest with many big trees on either side of it. When I had about reached the center of the park, I came to what is known as the Seven Sisters. At this point are grouped fifteen "big trees," seven of which are larger than the others. They all stand on an area of land, as I stepped it, of about one hundred and fifty feet square. One of these trees, a Douglas fir, at its base had a circumference of forty feet. That so small a space should produce so many giants was one of the most interesting things that I found in the park. Branching off from Tatlow Walk is a bridle path which leads to what is said to be the two largest trees in the park, each with a circumference of fifty-four feet. Midway between the Seven Sisters and the beach on Tatlow Walk, is a cedar which to my mind is one of the most beautiful and satisfactory trees in the park. It has a circumference of forty-seven feet, and is perfect in form and straight as an arrow. It is in a dying condition, and hundreds of people have cut their names



DOUGLAS FIRS IN STANLEY PARK, VANCOUVER, B. C.

into its body, notwithstanding that in doing so they were violating a law of the park which prohibits this outrage. Strange infatuation!

What has been known as "The Big Tree" was a disappointment to me. At its base it has a circumference of sixty-four feet, and in this respect is the largest tree in the park, but much of this is due to the fact that it is knotty and has an unnatural circumference for a tree of its kind and height. It is dead and has had the heart burned out of it. This has been taken advantage of and photographs are shown of it with a two horse wagon backed into its hollow trunk. Being on the road side and easy of access, it has become a favorite place for people to go and have their photographs taken with their vehicle backed into or by the side of it. A photographer has a cabin close by but he was not up when I was there, and so I could not have my "picture" taken – a great disappointment!

The park is so tangled with down-timber and undergrowth that without its man-made paths it would almost be impossible to get through it. The big trees, consisting of three species, namely, Douglas fir, hemlock, and cedar, are found in all parts of the park, and many of them must be more than a thousand years old. An abundant younger growth is coming on, and to me it was a pleasant thought that in a thousand years from now, these will be the big trees of Stanley Park. As I walked through the forest I saw several "big snails" crawling across the path. Some of them were as much as six inches long and one inch thick, and as they crawled their slow pace, they left behind them their slimy trail. There were giant ferns to be seen in great abundance. Some of the brakes were higher than my head.

I saw but few animals but I think I have never heard so many different kinds of birds in one morning as I did that morning. The songs of the many thrushes were especially delightful, and as I wearily walked along the park boulevard toward the city, it occurred to me that as Elbert Hubbard has said: "There are parks and parks, but there is no park in the world that will exhaust your stock of adjectives and subdue you into silence like Stanley Park at Vancouver." The city has fifteen parks, all of which are under the supervision of a board of park commissioners, whose report of December 31, 1911, shows that the total cost of their acquisition and maintenance to that date amounted to \$652,585.81.

Because of its peculiar location, it may be said without exaggeration that Vancouver is the commercial, financial, and industrial center of the province of British Columbia. It is the western terminus of the Canadian Pacific Railway, which has a continuous line of three thousand miles and was until late years the only transcontinental line on the western continent owned and operated by a single corporation. It is also the western terminus of the Canadian Northern and Great Northern systems in Canada, and has direct oceanic connection by a number of steamship lines with the Orient and Australia.

My last visit to the city of Vancouver was made in the early part of July, 1918. I took a sight-seeing auto and made the rounds of it, and found that many changes had been made in it since I first visited it in 1911. This was especially noticeable in its new additions, especially "Shaughnessy Heights" – and the improvements of its streets and the many permanent buildings that had been erected. The spires and towers of its

churches were very much in evidence. The Rogers, an eleven-story building, which occupies a full quarter of a block or square in the heart of the city is a most beautiful and attractive building – beautiful because of its simple outlines and finish. The Hotel Vancouver, constructed and named by the Canadian Pacific Railway Company in honor of Captain George Vancouver, is a monumental structure. I have always stopped at this hotel when visiting Vancouver. On this occasion I was assigned to a very desirable room overlooking the court house and its lawn. The court house, built of stone, has a large dome surmounted with a figure representing Justice. On the lawn is a flagpole made out of a single log with a length of two hundred and five feet, measuring twenty-two inches at the top and sixty inches at the butt. The tree was cut in 1912 by the Brooks, Scanlon and Obrien Company on their New Westminster District forest and presented to the provincial government for the purpose which it is filling. In 1914, the same firm cut another log two hundred and twenty feet long for a flagpole in the Kew Gardens in England. Several derricks and pile drivers had to be assembled on the Vancouver wharf when this huge stick was lifted bodily and laid very carefully along the deck of a large freight steamer sailing for England.

Trees and Shrubs of the Northwest Coast

For some unaccountable reason Vancouver was prone to minimize the forest of the Northwest coast, both as to species and the size of the trees, and it will be observed as we follow him further in his explorations he is prone to speak of the "scrubby pines" and a very few other species. He nowhere takes account of the great forests existing on the coast and islands he was exploring.

These forests are among the most wonderful in the world. How they have been produced is explained by the favorable conditions under which they have grown. They have had an abundance of moisture and sunlight and a comparatively mild climate, superinduced by the Japan current, in which to make that growth. One of the wonders of a voyage through the Inside Passage to Alaska is the green tree covering of the almost perpendicular rock sides of the mountains. These trees seem almost like parasites upon the rocks to which they cling and from which they rise. Frequently I have seen bushes nearly a half foot in diameter growing on rocks ten and twelve feet high. In one instance I found a Douglas fir as thick as my arm growing from the top of such a rock. I climbed to the top of the rock and found it was covered with a deep layer of moss and that the seed from which the tree had grown must have germinated in this. I took hold of the fir and with little effort turned it over and by so doing found that it was well rooted under-

neath the moss from which it evidently had drawn its nourishment.

One is astonished at the great durability of the fallen boles of some of the trees of the Pacific coast. Underwood in his *Alaska, an Empire in the Making*, tells us that, "a red cedar tree one thousand one hundred and thirty-seven years old was cut in the Snoqualmie forest in 1910, and marketed for shingles. This tree got its start in life some seven hundred and twenty years before the discovery of America. At the time when William the Conqueror fought the Battle of Hastings and founded the British aristocracy, this Washington cedar had attained the dignity that comes with two hundred and ninety-four years; and when Cortez began the conquest of Mexico, it was hoary with the weight of seven hundred and forty-seven years. Perhaps struck by lightning or blown down by storm, it fell to the ground two centuries before Columbus crossed the Atlantic Ocean in search of America. In the moss that formed upon it after it had fallen, another cedar took root, and its roots spread down the sides of the dead tree and reached the ground. The annular rings of the standing tree showed it to be seven hundred and fifty-seven years old, while similar marks of the fallen one showed it had been growing three hundred and eighty years before it was laid low. The tree had lain on the ground for seven hundred and fifty-seven years, and probably more. At the end of that time shingles from it were cut and scattered broadcast in the United States to demonstrate the durability of the wood. What Nature is long in producing she does not speedily destroy."

The government of the United States is protecting and preserving most of its forests in national parks and forest reservations extending through the coasts and

islands of California, Oregon, Washington, and Alaska. Notable among these are the Yosemite, Sequoia, General Grant, and Mount Rainier parks and the Mount Rainier, Olympian, Tongass, and Chugach national forest reservations. British Columbia supervises and controls her forests as a whole and grants leases to parts of them with restrictions to those who are engaged in the lumber business. The species of trees, their character, and size change very much from the south to the north. Of some of these an account will be taken; it must be understood, however, that this is not comprehensive and inclusive. Such an account would of itself fill a volume.

The first of these trees which demands our attention, botanically speaking, is the western white pine, *pinus monticola*. This tree is found on Vancouver Island and in southern British Columbia to northern Idaho and Montana, and south into California. It reaches the sea level on the shores of the Straits of Juan de Fuca, and elevations of ten thousand feet on the California Sierra Mountains. It grows to a height of one hundred feet, and occasionally one hundred and fifty feet, with a trunk ranging from four to eight feet in diameter. It is a splendid looking tree, having bluish-green fronds and cones from eight to twelve inches long. The Monterey pine, *pinus radiata*, growing from Vancouver Island southward and the scrub pine, *pinus contorta*, from the coast of Alaska south to Mendocina, California, are other pines found on the Pacific coast.

The tamarack, *larix occidentalis*, is a tree which sometimes attains a height of two hundred and fifty feet. Trees six feet in diameter and two hundred feet high are quite common. For the first fifty years of its growth

this larch, commonly called the western larch, is pyramidal in shape but thinly branched. After that the lower limbs die and fall off, leaving a bare trunk with a mere wisp of a top. The wood of the tamarack is close-grained, very heavy, exceedingly hard and strong, and of a bright light red color. It is found through the basin of the upper Columbia River from southern British Columbia to the western slopes of the continental divide of northern Montana, and to the eastern slopes of the Cascade Mountains of Oregon. It grows in moist bottom lands and on high benches and mountain sides. The fibrous roots of the tamarack were the Indian's thread; tough and fine as a shoe maker's waxed end, it sewed the canoe of birch, making a seam that scarcely needed the wax of the balsam to make it water tight.

Menzies or Sitka spruce, *picea sitchensis*, grows in moist, sandy, and swampy soils from Cape Mendocino northward through the coast region of Oregon, Washington, British Columbia, and Alaska to the eastern end of Kodiak Island. The wood is straight-grained, light, soft, and weak. The tree with a tapering trunk and enlarged base grows to a height of one hundred to two hundred feet, with a broad pyramidal head of drooping branches. The trunk ranges from two to six feet in diameter, is buttressed, and much enlarged at the base. It dwindles to a starveling shrub when the limits of its range are reached in the north, but in southeastern Alaska and on the coast ranges of British Columbia, Washington, and Oregon it is one of the largest and most beautiful trees on the Northwest coast. Not uncommonly individual spruce trees contain over fifteen thousand feet of lumber. During 1915 a single log was brought into a mill at Ketchikan that scaled

eighteen thousand feet. It was one hundred and fifty-four feet long and forty-one inches in diameter at the top. Many stands yield fifty thousand board feet per acre and in restricted areas run as high as one hundred thousand feet. Two examples of extreme age in the Sitka spruce were noted in Portage Bay between Petersburg and Juneau. A section of a log fifty-four inches in diameter taken at twenty-five feet above the ground had six hundred rings, thus showing it to be six hundred years old; another log fifty-four inches in diameter eight feet above the ground had five hundred and twenty-five rings. Both were entirely sound. Black spruce, *picea mariana*, and white spruce, *picea canadensis*, are also found on the Northwest coast.

Archibald Menzies, for whom the Menzies spruce was named, and who discovered it and many other trees and plants of the northwestern coast, was the naturalist of Vancouver's expedition. He was a surgeon in the royal navy, and had previously visited the Pacific in a vessel engaged in the fur trade. He was taken on this voyage for the specific purpose of making scientific researches. For the purpose of preserving such new or common plants as he might deem worthy of a place amongst His Majesty's very valuable collection of exotics at Kew, a glazed frame was erected on the after part of the quarter-deck, for the reception of those he might have an opportunity of collecting. Menzies was born at Weims, Perthshire, March 15, 1754, and died at Ladbroke Terrace, Notting Hill, February 15, 1842. His life was one of continued advancement as a scientist and of distinguished services rendered to his country. In 1790, he was elected a fellow of the Linnean Society and, January 10, 1842, a month before his death, he became its President.

Menzies' Bay at or near to the southern entrance to Discovery Passage and Point Menzies in River's Channel were named in honor of this distinguished naturalist.

The mountain hemlock, *tsuga mertensiana*, is found in southeastern Alaska, British Columbia, and southward to Central California, Montana, and Idaho. It usually grows to a height of seventy to one hundred feet but occasionally it is found one hundred and fifty feet high with slightly tapering trunk four to five feet in diameter. It grows at no great distance from the sea, and because of this, its wood can be transported to shipping points without great expense. Along the line of the Canadian Pacific Railway in the Selkirk Mountains it is very abundant. The bark on the young tree is thin, rather lustrous, and of a dark-gray-brown color; on old trunks it ranges in thickness from ten to twelve inches and is divided into oblong plates which are broken into broad rounded ridges, with dark red-brown scales. The wood is of a light red or yellow color. For many years the coast lumbermen were prejudiced against the wood of this hemlock, placing it in a class with its eastern namesake. Of late years, however, it has begun to be recognized as one of the most valuable of woods, for it has been ascertained by scientific tests and practical use that it is in many respects quite equal to the highly prized fir, and superior to it for all work requiring a fine polish. It is also, next to spruce, the most important of the pulp woods. Its bark is rich in tannin, and is used in tanning leather. Superb trees of this species are found on the mountains at an altitude of six thousand feet, but only in moist situations. On dry, high ridges, the tree has a stunted growth. When young or

growing singly the tree is decidedly pretty, and the yew-like fronds which enshroud the trunk can be made into a most welcome bed for the weary prospector or trapper.

The western hemlock, *tsuga heterophyllia*, is also found on the western slopes of the Cascade Mountains. It is most abundant and of the largest size on the coast of Washington and Oregon, where it frequently grows two hundred feet high with a trunk six to ten feet in diameter. It is esteemed one of the most valuable trees of the coast.

The Douglas or red fir, *pseudotsuga douglasii*, is, perhaps, the most abundant and the most valuable tree on the Pacific coast. It attains immense proportions, growing straight, high, and clear of imperfections. It is often found three hundred feet in height with a base circumference of from thirty to fifty feet. The average size, however, and the most prized by the lumbermen, are trees of about one hundred and fifty feet and five to six feet in diameter. It is scientifically described as standing midway between the spruce and the balsam. Its slender trunk, crowded with densely-clothed, long, pendulous branches which soon disappear, leaves it naked for two thirds of its height and surmounted by a comparatively small narrow head.

The wood of this tree is of light red or yellow color, is soft, light, and durable. It is largely manufactured into lumber in British Columbia, western Washington, and Oregon, and used in all kinds of construction, railway ties, piles, and for fuel. It is most abundant and of largest size on Vancouver Island and near the sea level of the coast regions of southern British Columbia, and of Washington and Oregon, and on the foothills of the Cascade Mountains. John Muir calls it, "The

magnificent silver fir." It was discovered by and named in honor of David Douglas, a British botanist, who was born in Scone, Scotland, in 1798. In his youth he was employed in the Glasgow botanical gardens where he attracted the attention of Sir William Jackson Hooker, who procured for him an appointment as botanical collector for the horticultural society of London. In this capacity he traveled extensively in America. In 1824, he explored California and the Columbia River and, in 1827, traversed the American continent from Fort Vancouver to Hudson's Bay, where he met Sir John Franklin, with whom he returned to England.

There are two species of the sequoias, namely: *sequoia washingtoniana*, and *sequoia sempervirens*. The first named of the Sequoias is known as the "big tree," and is confined to a narrow area on the western slope of the Sierras in California. A very careful study of them was made by Professor Ellsworth Huntington of Yale University in 1911. An account of his work was published by the United States Department of the Interior in 1913, and to this I am indebted for most of my information. These trees when young have a pyramidal shape, and a round top when they are old. They attain a height of two hundred and fifty to three hundred and twenty-five feet, and a diameter of twenty to thirty-five feet. They have fluted trunks with reddish-brown, fibrous bark, one to two feet thick. The wood is red, soft, coarse, light, and durable, and is used for shingles, fencing, and in general construction work. Professor Huntington says that three thousand fence posts, sufficient to support a wire fence around eight or nine thousand acres of land have been made from one of these giants, and that was only the first step

towards using its trunk. Six hundred and fifty thousand shingles, enough to cover the roofs of seventy or eighty houses, formed the second item of its product. Finally there still remained hundreds of cords of wood. The upper third of the trunk and all the branches lie on the ground where they fell, not visibly rotting, for the wood is wonderfully enduring. Huge as the sequoias are, their size is scarcely so wonderful as their age. A tree that has lived five hundred years is still in its early youth; one that has rounded out one thousand summers and winters is only in full maturity; and old age, the three score years of the sequoias, does not come for seventeen or eighteen centuries. How old the oldest tree may be is not yet certain. Professor Huntington counted the rings of seventy-nine that were over two thousand years of age, of three that were over three thousand, and of one that was three thousand and fifty. He says that in the days of the Trojan War and of the exodus of the Hebrews from Egypt this oldest tree was a sturdy sapling, with stiff, prickly foliage like that of a cedar, but far more compressed. John Muir thinks that some of the living trees have reached the age of five thousand years. The Sequoia National Park contains the largest groves of the oldest, the biggest, and the most remarkable trees living in the world. They number one million, five hundred and sixty thousand. Of them twelve thousand exceed ten feet in diameter. The General Sherman tree, most celebrated of all, is two hundred and seventy-nine and nine-tenths feet high with a diameter of thirty-six and five-tenths feet.

Sequoia sempervirens, commonly known as the redwood, is a resinous, aromatic tree with tall, fluted trunk and short horizontal branches. It grows to a

height of two to three hundred feet and has a diameter ranging from ten to twenty-five feet. Its head is small and irregular. The bark which is about twelve inches thick lies in ridges two to four feet long, is checked crosswise, and shows a bright close inner layer. The wood is light, soft, brittle, red, with a satiny lustre, splits easily, and is very durable. Its preferred habitat is a moist, sandy soil. It is found from the southern borders of California to Oregon and probably to Nootka. Large forests of it are found on the seaward slope of the Coast Range and occur in isolated groups farther inland. Because of their great size and the even grain of their cedar-like wood, they are recognized as among the most valuable of timber trees and owing to the fact that they come down to the coast, they are being rapidly destroyed. They were discovered in 1792 by Archibald Menzies.

Red or canoe cedar, *thuya plicata*, is a pyramidal tree which grows one hundred and fifty to two hundred feet high with a stout, often corrugated and buttressed trunk, sometimes fifteen feet in diameter at the ground and in old age often separating toward the summit into two or three divisions. Its wood is light, soft, brittle, coarse, durable, and of a reddish brown color. It is largely used in Washington and Oregon for the interior finish of buildings, doors, window sashes, fences, shingles, and in cabinet-making and cooperage. It takes a very brilliant polish, and so great is the variety of shading in its coloring that a large house may be finished in it without any two rooms being alike. It lasts well under ground, and on this account is much used for telegraph poles and fence posts. It is chiefly used in the manufacture of shingles, for which purpose it is unequalled by any other wood. From this tree

the Indians of the northwest coast split the planks used in the construction of their lodges, carve the totems which decorate their villages, and hollow out their great war canoes; and from the fibres of the inner bark they make the thatch for their cabins, their blankets, ropes useful in fishing and harnessing their dogs, and their baskets and game bags. This cedar is found on the coast region from Cape Mendocino north to Yass Bay in Alaska, and east into the mountains of Idaho and Montana.

The Monterey cypress, *cypressus macrocarpa*, is found on the coast of California south of the Bay of Monterey, occupying an area about two miles long and two hundred yards wide from Cypress Point to the shores of Carmel Bay, with a small grove on Point Lobos, the southern boundary of the bay. I visited Monterey August 18, 1911, and went to Cypress Point to see the cypress trees, which before then I had been told were a grove of the cedars of Lebanon. I brought home with me some of the limbs of a fallen tree. They are as hard as the horns of an elk and much resemble them. They are very strong and have the appearance of being as durable as iron. The trees grow to a height of forty to sixty feet and become gnarled and flat-topped when old. The trunk is short with a diameter of from two to three feet.

The Sitka cypress, *chamæcyparis nootkatensis*, is found along the coast from Oregon northward to Alaska. It is most abundant and of the largest size near the coast of northern British Columbia and in Alaska, where it ranges from sea level to an elevation of three thousand feet. It grows to a height of over one hundred feet, with a tall trunk five to six feet in diameter. At high elevations on the Cascade Moun-

tains it is only a low growing shrub. Its wood is very close-grained, hard, rather brittle, exceedingly durable and has a bright clear yellow color; because of this it is known as the yellow cypress. It is fragrant with an agreeable resinous odor. It is much valued for interior finishing and for the manufacture of furniture. The Indians along the northern coast of Alaska make many articles for domestic use from this wood. It commands a higher price than either the Douglas fir or the giant arbor vitæ. It is especially valuable for its lasting qualities. It has been known to last as sills for sixty years. It requires to be well-seasoned before use on account of its liability to shrink lengthwise as well as laterally. On account of the pungent odor which it emits when freshly cut and which it never loses, it is credited with resisting the *teredo*. The long and slender pendulous fruits which hang from the branches give the tree a graceful appearance.

Red juniper, *juniperus virginiana*, ranges from a shrub to a tree sixty to ninety feet high, with pyramidal form, and a trunk three to four feet in diameter. Vancouver says he found it at Birch Bay. It may be that he had in mind the red cedar, *juniperus scopulorum*, a tree that is found on the coast of Washington and British Columbia. This tree grows to a height of thirty to forty feet, with a short trunk sometimes three feet in diameter.

The Pacific yew, *taxus brevifolia*, is found as single individuals or in small clumps from Queen Charlotte Islands and the valley of the Skeena River southward along the coast ranges of British Columbia, Washington, and Oregon to the Bay of Monterey. The tree usually grows to a height of forty to fifty feet, with a

tall straight trunk one to two feet in diameter, with a broad head of long, horizontal, pendulous limbs. The wood of this tree is heavy, hard, very strong, and of red color. The Indians use it for canoe paddles, spear-handles, bows, and other small articles. The settlers use it for fencing. The birds are very fond of its translucent scarlet berries.

The quaking asp, *populus tremuloides*, is a slender tree which grows from forty to eighty feet high, with angular, scarred twigs, and large vigorous roots. The bark is rough and dark on the base of the trunk, becoming pale greenish brown or nearly white, and marked with broad, dark bands below the limbs. The wood is soft, close-grained, light, weak, and not durable and of a light brown color. It is useful, although not much used on the northwest coast. It is used for wooden-ware, light barrels, such as those used for sugar and flour, for crates and boxes, fence rails, fire wood and in making log houses. Commercially it is valuable for the manufacture of pulp. Where it can be obtained it is used almost exclusively by the beavers both for food and in the construction of their houses and dams. This aspen has, perhaps, a more extensive distribution than any other tree that grows in North America. I have found them wherever I have travelled and in the north as far as the head of Cook Inlet, where they are very small. A peculiarity of this tree is the power of its seeds to germinate quickly in soil made infertile by fire and its seedlings to grow rapidly in exposed situations. It is now widely spread over vast areas of the slopes of the Rocky Mountains swept by fire of their former covering of coniferous trees. It thus acts as a nurse to hard wood and conifers that later succeed it. Aspen is a general term applied to

trees of this genus whose leaves have flattened petioles. The round-stemmed ones are poplars proper. There is no mystery in the trembling of the leaves. The stem is long and flexible and flattened in a plane at right angles with the blade of the leaf. Now, given a leaf that is dangling from its twig, and has four flat surfaces exposed, it is a cautious breeze indeed that is able to get by without disturbing the leaf's unstable equilibrium. Given a tree top of similarly made and hung leaves and you have a quaking asp. In the autumn the leaves turn to a golden yellow, and this makes a grove of these trees most beautiful.

The black cottonwood, *populus trichocarpa*, is the giant of the genus, reaching two hundred feet in height and a diameter from three to eight feet. The range of this tree covers the coast plain from Alaska to southern California. It attains its greatest height in dense forests along river banks and on low islands. Its wood is light, of a dull brown color without any great quality to recommend it. It is used in Washington and Oregon for the staves of sugar barrels and in the manufacture of wooden-ware. Its principal use is for the manufacture of excelsior, for which purpose it is well adapted. The dark rich green of the leaves gives this tree its name. They are ovoid, three to four inches long, with the finest saw-toothed margins. It is the largest of the broad leaved trees of British Columbia, Washington, and Oregon.

The willows are distributed from the equator to the Arctic circle. There are one hundred and seventy species of them. Six of these are found on the Pacific coast, namely: The silver-leaved willow, *salix sessilifolia*; peach willow, *salix amygaloides*; western black willow, *salix lasiandra*; black willow, *salix nut-*

talii; Hooker willow, *salix hookeriana*; and the Sitka willow, *salix sitchensis*.

The western black birch, *betula occidentalis*, probably the one mentioned by Vancouver as having been found at Birch Bay, was discovered by Archibald Menzies in 1792. According to Sargent it grows in southwestern British Columbia and Washington. It is nowhere common. Those of the largest size grow on the alluvial banks of the lower Fraser River, and on the islands of Puget Sound. This graceful little tree is a true birch in habit and in the lustrous horizontal lenticelled bark, which it sheds in thin papery layers, and the bronze color of which is quite sufficient to justify its name and to identify the tree. Its brown wood is locally used for fencing and fuel. It is too small to be important commercially. In the north it is supplanted on the coast by the black birch, *betula kenaica*, which is found from Lynn Canal northward to the head of Cook Inlet. This is a tree with wide spreading branches and grows from thirty to forty feet high with a trunk twelve to twenty inches in diameter. It also is too small to be of any commercial value.

The alnus or alders are trees and shrubs with astringent scaly bark and soft straight-grained wood. They are found in swamps, river bottom-lands, and on high mountains. Nine of them are recognized as indigenous to North America, and of these three are found on the northwest coast, namely, the Sitka alder, *alnus sitchensis*; Oregon or red alder, *alnus oregona*; and the paper leaf alder, *alnus tenuifolia*.

The Sitka alder, *alnus sitchensis*, is found on the northwest coast from the borders of the Arctic circle to Oregon. As a tree it sometimes grows to a height of forty feet with a trunk seven to eight inches in diameter.

It is found on the western slopes of the Rocky Mountains. In southeastern Alaska on the rich bottoms near the mouths of mountain streams it often is a tall tree, but at the upper limits of tree growth it is a low spreading shrub.

The Oregon or red alder, *alnus oregona*, usually is a tree from forty to fifty feet high, but occasionally it is found with a height of eighty feet, and with a trunk three feet in diameter. It has a gray or nearly white bark and a light, soft, brittle, close-grained, light brown wood. Though weak and brittle, it is made into furniture, and by the Indians in Alaska the trunks are hollowed into canoes. It is found in southeastern Alaska and on the coast to California. It reaches its largest size near the shores of Puget Sound.

The paper leaf alder, *alnus tenuifolia*, is found on the banks of streams and mountain canyons from Francis Lake in latitude 61° north to the valley of the lower Fraser River, and is the common alder of eastern Washington and Oregon. It is a small tree, but occasionally grows thirty feet high with a trunk six to eight inches in diameter. Its primary virtue is that it thrives in places so boggy that even willows and poplars cannot grow. It is one of the prettiest of the alders.

The Pacific white oak, *quercus garryana*, is the only oak found in British Columbia. It is practically confined to the southern part of Vancouver Island, with the finest trees of it growing in the vicinity of Victoria. It is also found in the lower valley of the Fraser River and to the southward through western Washington and Oregon and the California coast valleys to the Santa Cruz Mountains. It ascends in its shrubby form to considerable elevations on the western slopes of the Cascade

Mountains. It usually grows to a height of sixty or seventy feet. Sometimes it is found with a height of one hundred feet with a trunk two to three feet in diameter. In the vicinity of Victoria, trees are found with a diameter of three or four feet, from which logs ten to twenty feet long can be obtained. Its wood is hard, close-grained, tough, strong, and valuable and of a light brown or yellow color. It resembles that of the English oak and is very beautiful when made into furniture and cabinet work. It is used in the manufacture of carriages and wagons, ship building and cooperage, for which it is principally useful. As an ornamental tree, it is very picturesque in appearance and gives to a landscape an appearance which is usually associated by the citizens of Victoria with English pastoral scenes.

The Oregon crab apple, *malus rivularia*, is found from the Aleutian Islands southward along the coast and islands of Alaska and British Columbia to Sonoma County, California. Its greatest size is in the Washington and Oregon valleys. Its favorite habitat is a deep rich soil in the neighborhood of a stream. The wood is heavy, hard, very close and of a light brown color tinged with red. It is used for mallets, mauls, tool handles, and the bearings of machinery. The apples are oblong and few in number. The Indians consider them worth gathering for food.

The wild cherry, *prunus emarginata*, is a tree which occasionally grows to a height of thirty to forty feet with a trunk twelve to fourteen inches in diameter. Those of the largest size are found on Vancouver Island, in western Oregon and Washington, and on the Santa Lucia Mountains. It usually is found near to the banks of streams in low rich soil, or less commonly on dry hill sides. The wood is close-grained, soft, and

brittle and of a brown color streaked with green. The fruit ripens from June to August, with a thick skin bright red at first, and when fully grown becomes almost black, with thin, bitter astringent flesh.

The broad-leaved maple, *acer macrophyllum*, grows to a height of eighty to one hundred feet with a straight trunk from two to three feet in diameter. Its wood is light, soft, weak, close-grained, and of a rich brown color tinged with red. It is found on the banks of streams, rich bottom lands and the rocky slopes of mountains on the coast of Alaska south of latitude 55° north, and southward on the islands and coast of British Columbia, Washington, and Oregon west of the Cascade Mountains. It is very common on Vancouver Island, and regarded as the most valuable of the deciduous trees of the northwest coast. Much of the wood is "curly," which adds greatly to its value for cabinet-making material. It is used in the manufacture of furniture, mantles, interior finishing, and for handles. The beauty of this wood is well displayed in the interior finish of the government buildings at Victoria.

There are two native maples on the northwest coast in addition to the broad leaved already described, namely, the vine maple, *alnus circinatum* and the dwarf, *alnus glabrum*. The former of these is found on banks of streams and the coast of British Columbia southward through Washington and Oregon to Cape Mendocino, and is one of the most abundant deciduous trees of the coast. The tree grows forty feet high, often with a vine-like contorted trunk, ranging from ten to twelve inches in diameter. The latter is found from Lynn Canal southward to the Blue Mountains of Oregon. It is a low tree which occasionally reaches a height of forty feet with a trunk eighteen

inches in diameter. It attains its largest size on Vancouver Island and the Blue Mountains of Oregon.

Of the genus *ramnaceæ* there are about sixty species widely distributed throughout the world. Of these five species are indigenous to the United States. Only one of them, however, is found on the northwest coast, namely, the cascara bearberry or coffee tree, *ramnus purchiana*. Its range extends from Puget Sound through California and east to Colorado. The tree grows from thirty to forty feet high, with a slender trunk eighteen to twenty inches in diameter, separating ten to fifteen feet from the ground into numerous stout, upright branches. It has a thin brownish bark, and light wood, soft in texture and of brownish color. The bark possesses the drastic properties peculiar to most of the other species of the genus, and is a popular domestic remedy under the name of *cascara sagrada*, which, as such has been admitted into the American materia medica. It was named in honor of Frederick Pursh, a botanist, who was born in Tobosk, Siberia, in 1774. He was educated in Dresden, and came to America and spent twelve years in botanical explorations in the United States. He visited England in 1811 and published a *Systematic Arrangement and Description of the Plants of America*. This was recognized as the most important work on the botany of North America until it was superseded by Torrey and Gray, *Flora of North America*.

The dogwood, *cormus nuttallii*, is found in the valley of the lower Fraser River and on Vancouver Island, and from there southward through western Washington and Oregon, and on the coast ranges of California to the San Bernardino Mountains. The tree sometimes reaches a height of fifty feet with a diameter of eight to

ten inches. It has a fine grained, hard, pinkish wood, which takes a good polish. Occasionally it is used for ornamental work. It usually grows in moist, well-drained soils under the shades of coniferous forests and is fairly abundant on the mainland and islands. In its national habitat it is easily first in a land of splendid flowering trees. Its flowers in coloring and form are very much like its eastern relative *cormus florida*, but are twice as large.

The madrona, *arbutus menziesii*, after which one of the parks in Seattle is named, is an evergreen shrub or tree which grows from forty to one hundred feet high, with smooth, reddish brown bark, and smooth red branches. When growing on exposed rocks and headlands it does not attain a great size but trees a foot in diameter are common, although as a rule twisted and crooked; when growing in forests, however, they grow fairly straight, sometimes attaining a large size. On the Alberni Road in the vicinity of Nanoose Bay many fine specimens are to be seen. Mr. Gosnell measured one tree which was ten feet five inches in circumference. As yet no use has been found for the wood. It is hard, fine, and close-grained and takes a good polish but it is apt to warp and crack if used before it is well-seasoned. It bears large conical clusters of white flowers, above the vivid green of its leatherly leaves. The red-brown trunk and bright red branches add a rich color note to it, which is intensified when the copious scarlet fruit appears and the two-year-old leaves turn to scarlet or orange in the autumn. The Japan current makes these trees hardy on the west and the northwest coast regions. They are found from California to Nanoose Harbor on Vancouver Island, where they are quite common. Mrs.

Rogers in her tree book says: "No American tree of considerable size equals this one in beauty the year around," and of that beauty Bret Harte concludes a poem with the following stanza:

Where, oh, shall he begin
Who would paint thee, Harlequin?
With thy waxen burnished leaf,
With thy branches' red relief,
With thy polytinted fruit,
In thy spring or autumn suit,
Where begin, and oh, where end,
Those whose charms all art transcend.

The Oregon ash, *fraxinus oregona*, is found on the Pacific coast from Puget Sound south to the Bay of San Francisco and back to the foothills of the Sierras. It is most abundant and of largest size on the bottom lands of the rivers of southwestern Oregon. It grows to a height of seventy to eighty feet, with a trunk occasionally four feet in diameter. Its wood is of a brown color, coarse, hard, light and porous. It is largely used in the manufacture of furniture, for the frames of carriages and wagons, in cooperage and the interior finish of houses, and for fuel. It is one of the most valuable of the deciduous-leaved timber trees of the Pacific coast.

The salmon berry, *rubus nutkanus*, a member of the rose family, grows abundantly in high wooded hollows. It is from three to nine feet high with brown prickly stems, fine foliage and flowers and conspicuously beautiful fruit. The fruit is a firm, smooth raspberry, with a bright orange color, more or less tinted with red. It is rather pleasant but insipid. The Indians use the berry as a food and in season offer them for sale to

tourists. My first acquaintance with it was at Sitka, where I first saw the bushes growing in the old Russian cemetery.

The Devil's Club, *fatsia horrida*, I have found wherever I have traveled on the coast and islands of Washington, British Columbia, and southeastern Alaska. It is a member of the ginseng family. It grows from two to twelve feet high, and consists of a stout stem which is covered with long sharp spines that are extremely poisonous. It has large palm-like, prickly leaves. In the autumn the leaves turn to a beautiful golden yellow color. The yellow leaves and bright red berries, with their striking contrast, in the midst of green conifers make a mountainside or valley a very beautiful picture, but one that must be carefully avoided, as I learned by accidentally falling into a clump of them. The pain caused by the sting of the poisonous sharp spines is very excruciating and continues for hours after one has been stung by them. *Horrida*, horrible, tells the story of what the sting means. Without a doubt it has been rightly named the "Devil's Club."

The salal, *gaultheria shallon*, is a member of the heath family. The floor of the redwood forest on the northwest coast is often carpeted with this little under-shrub while in other places one can wade waist deep in it. I first got acquainted with it in the suburbs of Seattle. It grows much larger on Vancouver Island, where it forms dense, impenetrable thickets. Its dark purple berries have an agreeable flavor and make good pies and sauce. They form an important item of diet among the Indians of the coast.

The pale elder, *sambucus glauca*, grows in gravelly, rather dry soil of valleys and river bottoms from British Columbia to the southern borders of California. The

trees grow from thirty to fifty feet high with a trunk sometimes enlarged at the base with a diameter of twelve to eighteen inches. I saw one in the vicinity of Mount Rainier that was about twenty-five feet high with a diameter of about eight inches. It surprised me, for it was the largest elder that I had ever seen. The wood of this tree or shrub is light, soft, weak and yellow, tinged with brown. The fruit is rather sweet and juicy and is edible. It makes good pies and a fairly good wine.

Vancouver also says that he found gooseberries at Birch Bay. Being about the smallest of the shrubs growing on the Northwest coast, it seems fittingly proper to close this chapter with a brief consideration of them. The gooseberry mentioned by Vancouver evidently was *grossularia menziesii*, known as the canyon gooseberry. It grows in swampy or wet places, such as Vancouver found at Birch Bay. It has pretty fuchsia-like flowers and small prickly fruit.

Vancouver Island, Eastern Shore- Esquimalt and Victoria

Vancouver Island was first discovered in 1592 by Apostolos Valerianos, generally known as Juan de Fuca, if credit is to be given to his account of the discovery of the straits which bear his name. If Fuca's story was fiction, then as a matter of history, it is true that the first mention of it as an island, by a white man, must be accredited to John McKey, who by his own request was left at Nootka by Captain James Strange in 1786. His story was narrated to Captain Charles William Barkley, who arrived at Nootka in June, 1787. He told Barkley that during the year he had lived with the natives he had learned from them and by his own observations that Nootka was really on a big island around which a boat could be sailed southward from Nootka. Barkley, taking McKey with him, sailed southward from Nootka and on the way discovered Barkley Sound, and as we have already seen, rediscovered the Straits of Juan de Fuca. In 1778, Captain James Cook was at Nootka and explored the western coast of the island.

The island was first occupied by the British in 1842. In that year the Hudson's Bay Company established their headquarters on the site of the present city of Victoria. In 1849, the island was granted to the Hudson's Bay Company for a period of ten years. A government for it was established, and Richard Blanchard was sent from England as its governor. He

resigned in 1850 and was succeeded by James (afterwards Sir James) Douglas. An assembly was called and held its first meeting in Victoria in August, 1856. While the island was thus constituted and governed as a crown colony, the mainland known as New Caledonia remained practically unknown and was inhabited only by Indians and a few fur traders. Gold was discovered on the Fraser River in 1852, and miners began to crowd into the country, and this made the establishment of some form of government a necessity. Therefore the whole of the mainland west of the Rocky Mountains was created a crown colony under the name of British Columbia. In 1866, the two colonies were united by an Act of the Imperial Parliament, and on July 20, 1871, British Columbia became a province of the Dominion of Canada.

Vancouver Island is the largest island on the Northwest Pacific coast. It has an extreme length of about two hundred and eighty-five miles, with an average width of about sixty miles, and is separated from the mainland of British Columbia by Juan de Fuca, Haro, Georgia, Discovery, Johnstone, and Broughton straits, Goletas Channel, and Queen Charlotte Sound. Its coasts are deeply indented with bays, sounds, and harbors, which furnish good shipping facilities for its various activities. The country on the southern and eastern coasts is comparatively level, while the interior is much broken by mountains and heavily wooded valleys. The greater part of the agricultural land of the island is covered with trees and thick underbrush. The cost of clearing such land ready for plowing runs from forty-five dollars to two hundred and fifty dollars an acre. The quality of the soil varies, the rule being the heavier the timber the better the land.

The climate of Vancouver Island closely resembles that of Great Britain. The proximity of the snow-capped Olympic Mountains have a marked effect on the summer temperature, which is never intensely hot, while the Japan current striking the west coast brings with it moisture and heat which tempers the severity of the winter weather. On the southern and eastern parts, holly, ivy, broom, gorse, heather, privet, and other old country shrubs thrive to perfection, and all of the old-fashioned English flowers are seen in the gardens and fields.

The mineral production of Vancouver Island is nearly one half that of the interior provinces of British Columbia, which is universally recognized as the great mineral province of the Dominion of Canada. This is derived from a small fraction of the potential mineral resource and consists chiefly of coal. The immense possibilities of iron and copper are just beginning to be realized.

Next to her minerals the most important of the natural resources of the island is its immense timber reserve. The celebrated Douglas fir comprises about eighty per cent of this. This tree is the most widely distributed and valuable found on the Pacific coast and grows as far north as latitude 51° , where it is supplanted by cypress, yellow cedar, red cedar, hemlock, and spruce. It attains immense proportions, sometimes towering to a height of three hundred feet, with a base circumference of thirty to fifty feet. The best average trees are one hundred and fifty feet clear of limbs and five to six feet in diameter. It is the staple of the island's commerce, and is prized for its durability and strength and is known and used throughout the world, being admirably suited for all purposes. The spruce

and cedar excels all others in growth and picturesque grandeur. The cedar is readily turned to a very great variety of uses by the people of the island while in commerce it is utilized not merely for the celebrated British Columbia shingles but also for fine lumber. Its beautiful veining makes it especially desirable for interior work. Hemlock, spruce, maple, cottonwood, alder, and yellow cedar are also numbered among the commercial trees of the island.

There are few, if any, countries of its extent that offer such a variety of attractions to the hunter and angler as Vancouver Island. Its game birds include blue and ruffed grouse, English pheasant, ptarmigan, snipe, plover, swan, brant, Carolina and Virginia rail, quail, sandhill crane, pelican, and numerous varieties of ducks and geese. Of beasts, there are elk or wapiti, black-tailed deer, black bear, wolf, wolverine, panther, lynx, raccoon, beaver, otter, mink, marten, and other fur-bearing animals. While there are five species of salmon in the waters of the island, only two of them are sporting fish. The one that comes in the greatest numbers is the coho, a fish running from five to twelve pounds. Coho fishing begins early in July at Campbell River and the run lasts from a month to six weeks. In August they can always be taken in the waters close to Victoria and among the islands in that neighborhood. The second sporting salmon is the spring, which, when of very large size is generally called the "tyee." These fish run from the beginning of December to the end of April. The great run of this salmon in the southern waters begins at the end of July, and it is at this time that people flock to Campbell River. These fish run anywhere from thirty pounds up. The "steelhead" and "cutthroat" are the two distinct species of trout

to be found in the waters of the island. The steelhead trout is a sea trout running from five to as high as twenty-five pounds. The cutthroat trout is also a sea trout, and is so called from the red streak which comes under the gills in all mature fish some time after they have been in fresh water. The Cowichan, Courtenay, Campbell, and Oyster rivers are some of the best places on the island in which to catch these fish. Nearly all of the northern waters swarm with grayling, running from one to two pounds in weight.

There are numerous islands in the straits which separate Vancouver Island from the continent, many of which support prosperous communities of farmers and fruit-growers. The climate is mild and equable, and, being sheltered from the north winds, the more delicate varieties of fruits and vegetables do well. Apples, plums, pears, peaches, apricots, nectarines, grapes, figs, melons, tomatoes, etc., grow to perfection. Sheep-raising is one of the chief industries and is highly profitable.

The approach to Esquimalt is through the Straits of Juan de Fuca. Esquimalt, the Indian of which is Ischoy-malt, is pronounced "Squimalt" by most of its citizens. It is a seaport city with a population of about one thousand persons, located on the southeast coast of Vancouver Island, four miles from the city of Victoria, with which it is connected by an interurban railway. It has a very fine harbor which offers safe anchorage for vessels of any size. It is admirably adapted for a maritime stronghold, and has been utilized for that purpose. It is the headquarters of the British Squadron, with a navy yard, dry-docks, barracks, arsenal, marine railway, metrological station, and hospital. In 1894, the British Government commenced work on the

defenses of the city, consisting of earthworks with disappearing guns, and two parapet forts on the hills, for protection against a possible attack by land. The harbor of Esquimalt is kept thoroughly mined and wired, and constitutes one of the best defended naval stations in the world. Hatley Park, the residence of Sir James Dunsmuir, once lieutenant-governor of the province of British Columbia, is on the western shore of the inlet. The Dunsmuir Castle is the most notable residential building on the Pacific coast.

Victoria, the old capitol of Vancouver Island and now the capitol of British Columbia, with an estimated population of fifty thousand persons, is the largest city on Vancouver Island. Originally it was known as Fort Camouson, "Camouson" being the Indian name for the inlet now known as Victoria Harbor. In 1841, Fort Camouson was selected as the administrative centre and chief depot of the western department of the Hudson's Bay Company. In June, 1843, it was founded as a trading post and depot for whalers. In 1845, the name was changed to Fort Albert in honor of Prince Albert. After the treaty of 1846, by which the United States obtained possession of the Oregon Territory, the headquarters of the Hudson's Bay Company on the Pacific coast was transferred from Fort Vancouver to the post and by an order from England the name was changed to Fort Victoria in honor of Her Majesty, Queen Victoria. At that time the post had more than three hundred acres under cultivation and possessed a large dairy farm from which the Russian colonies in Alaska received supplies. The site for a fort was selected by Governor James Douglas on the east shore of Victoria Harbor, one mile from its entrance, and the men and material for its construction

were obtained from the lately abandoned forts McLoughlin and Simpson.

The approach to "The Naples of the North" is through the Straits of Juan de Fuca, with Sooke Hills beyond; and the crested battlements of Douglas fir that meet the eye from every side is a sight long to be remembered. At the head of the land locked harbor are the parliament buildings, which have been much enlarged within the last few years, faced with spacious evergreen lawns, parked with shrubbery and brilliant with myriads of flowers almost all the year round. This noble edifice has challenged the admiration of visitors from all portions of the globe. It fronts the harbor, giving a magnificent outlook from its windows and terraces, and is a triumph of stately architecture and imposing strength. Directly in front of the harbor on the east side is the Empress Hotel, and to its right rises the Post Office and Customs House. The scenery about the city presents a wide diversity of beautiful views. From the mainland and especially from Beacon Hill over the Straits of Juan de Fuca loom the Olympics, snow-crowned, with their ridged and serrated peaks, making a background of majestic grandeur. "Over them," as has been well said, "float those 'cloud armadas' of the skies, the shifting cloudships, some with furled sails and idle, some with snowy canvas spread to the winds, sailing to far-away harbors through dreamy seas of deep and distant blue."

The general rule in North American cities is that climatic conditions are exceedingly trying to health, comfort, and happiness. An exception to this almost universal rule is the city of Victoria. It will always enjoy cool summers and moderate winters. It will never have extremes of either heat or cold, since Na-

ture, herself, has decreed what the climate shall be. The isothermal line denoting forty degrees above zero in winter and sixty above in summer intersect here and produce as near as possible both an ideal summer and winter temperature. For twenty years the highest summer temperature was 84.2 and its lowest winter 17.3 degrees above zero. The rainfall is only one half as large as that of the cities on the mainland and ranges from twenty-six to twenty-eight inches annually. The city has a very large proportion of bright sunshine during the entire year.

Suburban Victoria is celebrated for its unique charm and loveliness. Its lovers of nature have built stately homes or dainty bungalows among the still unscarred forests, or by the shores of the bays, coves and inlets that indent the waters of the Pacific. Beacon Hill Park and the Gorge are among the city's most attractive features both to visitors and residents. Each of these beautiful parks has an individuality of its own, and each is essentially different from the other. With its suburbs and adjoining communities, Victoria has from sixty to sixty-five thousand inhabitants, mainly English and Canadians, with some Scotch, Irish, and Americans and many Asiatics.

Residents are not provided in Victoria with homes for mere existence. They are transformed into homes that have a distinctive name and characteristics of its own. They have ample room and breathing spaces. They are embowered in trees and flanked with flowers. The green velvet carpet of each lawn is spotlessly kept. Every natural advantage from a protruding point of a natural rock to the patriarchial oak is used for the finest effect.

Starting from or coming into Victoria, a ship passes

around Discovery Island. From this point, if the day is clear, the traveler obtains a magnificent view of the mainland and the snow-capped peaks of Mounts Baker, and Rainier, towering in the distance and of the Olympics across the Straits of Juan de Fuca. In the Olympic range, there are twenty-two peaks especially prominent among the more or less conspicuous ones. Unlike the other mountains of the Pacific northwest, these are not isolated volcanic cones, but form a range of jagged peaks connected below. These are massive, clear-cut heights with sides like the face of a diamond, some white with great depths of level snow and others blue and shining like flint, too perpendicular to admit of either snow or ice to cover them. These mountains, though not as high as some, impress one with a sense of elegance and stateliness which belong peculiarly to themselves. I can understand why the Straits of Juan de Fuca with its sparkling waters is called the "Opal Way."

Saanich Inlet is a deep indentation into Vancouver Island, extending in a southerly direction for fourteen miles and carrying deep water to its head, which terminates in a narrow creek, the head of which is within four miles of the Esquimalt harbor. It forms the southeast part of the island into a peninsula about twenty miles long in a north and south direction, and with a breadth varying from eight miles at its southern part to three miles at its northern. This is known as Saanich Peninsula, and its northern end is low and wooded with no distinguishing features. On the southern coast of this peninsula are the harbors of Esquimalt and Victoria. A mile and a half from the head of the inlet is the large Langford Lake. It is two and a half miles from Esquimalt, and from it, if necessary, a good

supply of fresh water could be obtained for that place and the vessels in its harbor.

Sansum Narrows, Stuart Channel, Telegraph Harbor, Thetis Island, and Oyster Harbor are among the chief natural features north of Saanich Inlet. The town of Ladysmith, founded in 1900, is situated on Oyster Harbor, and lies at the head of the low cliffs between the coal wharves and Williams Point. The country southward and southeastward of the town, is mountainous and densely wooded. Ladysmith has a population of about four thousand and depends on the coal mines in its vicinity, of which the principal are an extension of the South Wellington mines, situated from nine to twelve miles to the northward.

The next important town on the east coast of Vancouver Island is Nanaimo, situated on the bay of the same name. It is built on land sloping from the water to a height of two hundred and thirty feet, and is fronted by a number of wharves. These wharves are used for shipping coal, the main export of the port. The Western Fuel Company's wharf at the south end of the town port, is nearly eight hundred feet long, with depths alongside of twenty to thirty feet. Three loading chutes deliver seven hundred tons of coal per hour, and in close proximity are coal bunkers with a capacity of seven thousand tons. The south end of the wharf is connected with the Esquimalt and Nanaimo Railway by a ferry slip, which accommodates freight cars on barges to the mainland.

Nanaimo, named after an Indian tribe, was first settled in 1849 as a Hudson's Bay Company station and is one of the oldest towns in British Columbia. In 1857, it consisted of a few colliery buildings along the shore of the harbor and about a dozen remarkably



THE HUDSON'S BAY COMPANY BLOCKHOUSE
At Nanaimo, B. C., built in 1853

sooty houses, inhabited by coal miners and a few Hudson's Bay Company's officers. To the left of these houses stood the Company's old blockhouse, which is still standing, on which were mounted four or five honeycombed twelve-pounders with which the great fur company were wont to awe the neighboring Indians into becoming respect and submission. The city still has a sufficient suggestion of the Arcadian touch to justify the phrase "old-fashioned," but differing from other cities of "the last West," the city is glaringly new. It has all the quaintness of an old New England seaport, and yet it teems with the hustle and bustle that denotes the activities of a western town. The "remarkably sooty houses" of 1857 do not disfigure the city of the present time, for now one could live in the city for years, and unless they were told there were coal mines underneath, they would never know it. There are no suggestions of the usual earmarks which go with a coal mining town; no coal dust, no unsightly works, no untidy reminders of the great industry are to be seen. The city is well equipped with public buildings. Along the summit of the slope on the western side of the harbor are several prominent buildings, the southernmost being the old blockhouse of the Hudson's Bay Company, an octagonal tower with a block roof, which has been re-erected here as a landmark.

It is claimed that Nanaimo Harbor and adjacent waters yearly behold the most remarkable herring fish run on the Pacific coast. For several months in the year the waters fairly teem with herring, and the growth of the industry has been very rapid during the past few years. In 1905-6 but six firms at Nanaimo were engaged in the business with a total capital invested of nine thousand dollars and employing one

hundred and fifty men. On the opening of the season of 1909-10, forty-three firms were ready to commence operations on a scale never before attempted. Over fifteen hundred men were employed and the quantity of fish caught amounted to no less than fifty-six million pounds.

What gives to Nanaimo a distinctive place upon the Pacific coast is, however, its collieries. Coal was first discovered at Nanaimo in 1850 by the Indians, who brought a canoe load of the black stones to the Hudson's Bay Company's blacksmiths at Victoria. At first the Indians were paid one blanket for eight barrels of coal taken out.

The Wellington coal mines are located at this point. These were discovered by Richard Dunsmuir, a Scotch coal expert of the Hudson's Bay Company. The stumbling of his horse uncovered the outcropping of the best coal in British Columbia. He and two of his friends invested \$4850 each in developing the mines. At the end of two years Dunsmuir bought the interest of one of his partners for \$243,000, and at the end of five years the remaining partner's share for \$729,000. It has been said that the five Dunsmuir mines at Wellington and North Wellington have cleared fifty thousand dollars each per month. Four companies operate the mines at Nanaimo, namely, The Western Fuel Company, the Pacific Coast Coal Company, the Nanaimo-Vancouver Coal Company, and the Western Collieries. The output of the Western Fuel Company amounts to about one million tons annually. What is known as the Nanaimo coal area is by far the largest in British Columbia; it is estimated that it covers an area of three hundred and fifty square miles. The coal produced in these mines is of a cretaceous formation

and seems to be a medium between the bituminous coal of Nova Scotia and the anthracite of Pennsylvania. It makes a good fire and is used for domestic and manufacturing purposes and by the steamships.

I visited Nanaimo, August 25, 1913. The Industrial World Workers had succeeded in inaugurating a serious labor strike among the coal miners, the outcome of which had been the loss of several lives. This was not stopped until the city was placed under martial law. Several hundred men were under arrest and were to be tried by the civil authorities and a court martial the next day. Hundreds of idlers were on the streets and very little business was being transacted. All of the mines had been closed, and I was told that it would take a year to get business into a normal condition.

Denman and Hornby islands lie off the southern shore of the Strait of Georgia, abreast Texada Island, off the northern shore. Baynes Sound is a narrow sheet of water fifteen miles long and accessible to vessels of heavy draught. This sound was named in honor of Sir Admiral R. L. Baynes who visited Esquimalt, Nanaimo, and Burrard Inlet in September, 1858. The entrance to this sound lies between Yellow Island and Point Reef, two miles within it on the north side, and Point Maple on the south side. It is about one mile wide, but the navigable channel is reduced to a breadth of less than three cables by the shoals extending from either shore. At the northern end is the mouth of the Courtenay River, one of the largest streams in Vancouver Island, and in this neighborhood there is a large extent of good farming land cleared and cultivated. In Union Bay, on the western side of the sound, is the shipping place of the Union Collieries Company, situated near the town of Cumberland. A railway,

fourteen miles in length, connects the wharf with the mines. Port Augusta occupies the head of the sound, and is a well-protected anchorage. The north entrance to Baynes Sound is also the south entrance to Comox Harbor. The name Comox is derived from Comoux, the name of an Indian tribe, and is said to mean plenty or an abundance, and if so, it was well applied in this instance. On the east side and near the mouth of Comox Harbor is the town of Comox, with a steamer landing and post office. The Comox River empties into the harbor and is the outlet for Comox Lake, which is five miles long. Cumberland located near the east end of this lake, is an incorporated municipality, steamer landing and an important coal-mining city.

As Vancouver was rowing southward on the morning of June 22, for Point Grey, where he purposed to land and breakfast, he discovered two vessels at anchor at the south extremity of Texada Island, which on a nearer approach he discovered were a brig and a schooner, wearing the colors of Spanish vessels of war. These vessels proved to be a detachment from the commission of Señor Malaspina, who himself had visited the coast the preceding year. They were the *Sutil*, under the command of Señor Don D. Galiano, and the schooner *Mexicana*, commanded by Señor Don C. Valdes.

They had sailed from Acapulco on March 8, in order to prosecute discoveries on this coast. Señor Galiano, who spoke a little English, informed Vancouver, that they had arrived at Nootka on April 11, whence they had sailed on June 5, in order to complete the examination of this inlet, which had, in the preceding year, been partly surveyed by some Spanish officers,

whose chart they produced. Vancouver experienced no small degree of mortification in finding that the external shores of the Gulf of Georgia had been visited and already examined a few miles beyond where his researches during his excursion had extended. From them Vancouver also learned that Señor Quadra, the Commander-in-Chief of the Spanish marine at San Blas and in California, was, with three frigates and a brig, waiting his arrival at Nootka, in order to negotiate restoration of those territories to the crown of Great Britain.

With a fine breeze and pleasant weather, Vancouver's vessels sailed out of Birch Bay, Sunday morning, June 24, and directed their course up the Gulf of Georgia, to the northwestward. About two o'clock in the afternoon they were joined and saluted by the Spanish vessels. Next morning a great number of whales were playing about in every direction; and though the explorers had been frequently visited by these animals in this inland navigation, there seemed more about them now than the whole of those they had before seen, if collected together. This circumstance Vancouver concluded in some measure favored the assertion in the publication of Mr. Meares that a passage to the ocean would be found by persevering in their present course. This, however, was rendered very doubtful, as Vancouver had been informed by his Spanish friends, that, notwithstanding the Spaniards had lived upon agreeable terms with Mr. Gray and other American traders at Nootka, they had no knowledge, except from the history of it published in England of any person having ever performed such a voyage. Señor Valdes, who had been on the coast the preceding year and spoke the Indian language fluently, understood, from the natives,

that this inlet *did* communicate with the ocean to the northward; he, however, did not place much dependence on this information.

In passing from Savary's Island Vancouver says: "We seemed now to have forsaken the main direction of the gulf, being on every side accompanied by islands and small rocky islets; some lying along the continental shore, others confusedly scattered, of different forms and dimensions. Southwestward of these islands, the main arm of the gulf extended in a northwest direction, apparently three or four leagues wide, bounded by high though distant land. Through this very unpleasant navigation we sailed, still keeping close to the continental shore, which was compact. About dark we entered a spacious sound stretching to the eastward. Here I was very desirous of remaining until daylight; but soundings could not be gained though close to the shores. The night was dark and rainy, and the winds so light and variable, that by the influence of the tides we were driven about as if we were blindfolded in this labyrinth, until towards midnight, when we were happily conducted to the north side of an island in this supposed sound, where we anchored in company with the *Chatham*, and the Spanish vessels, in thirty-two fathoms of water, rocky bottom." This anchorage was made on the north side of Kinghorn Island, which separates Lewis Channel and Desolation Sound.

At break of day on June 26, Vancouver found that they were surrounded by a detached and broken country, whose general appearance was very inhospitable. Stupendous rocky mountains rising almost perpendicularly from the sea, principally composed the northwest, north, and eastern quarters; on these pine trees, though not of luxurious growth nor of much variety, were

produced in great numbers. The infinitely divided appearance of the region in which they had arrived rendered it necessary to send out boat parties, while the ships moved to a station on the northern side of Lewis Channel. This situation presented as gloomy and dismal an aspect as nature could well be supposed to exhibit, had she not been a little aided by vegetation. The very circumscribed view that they had of the country rendered it impossible for them to form the most distant idea of any circumstances relative to the situation in which they had become stationary. Their residence here was truly forlorn. An awful silence pervaded the gloomy forests, whilst animated nature seemed to have deserted the neighboring country, whose soil afforded a few small onions, some samphire, and here and there bushes bearing a scanty crop of indifferent berries. The steep rocky shores prevented the use of the seine, and not a fish at the bottom could be tempted to take the hook. Nor did the exploring parties meet with a more abundant supply, whence the place obtained the name of Desolation Sound, which name it still retains.

Some days were devoted to exploring the region of the Redonda Islands and Malaspina and Toba inlets. Near the head of Toba Inlet they found several deserted Indian fishing weirs, and along the shores, which were mostly composed of high steep barren rocks, were several fences formed of thin laths, stuck either in the ground or in the chinks of the rocks, with others placed along them in different directions. Ranges of these were fixed along the rocky cliffs in the line of the shore, others varied from that direction, and from their appearance were supposed to be intended for the drying of fish. Toba Inlet, as it is now known, extends in a general northeasterly direction for eighteen

miles from the northern end of Homfray Channel, with very deep water. An Indian village is situated on the right bank of the river about one and a half miles from its mouth. In the bight on the northwest side of the head of the inlet is a small cemetery, situated on the southern bank of a creek, with two wooded shacks on the northern bank.

Messrs. Puget and Whidbey found that the surrounding country up Toba Inlet nearly corresponded with that in Howe's Sound, and, like it, was nearly destitute of inhabitants. That it had been more populous was manifested by the party having discovered an extensive deserted village, computed to have been the residence of nearly three hundred persons. It was built on a rock, whose perpendicular cliffs were nearly inaccessible on every side, and connected with the main by a low narrow neck of land, about the center of which grew a tree, from whose branches planks were laid to the rock, forming by this means a communication that could easily be removed, to prevent their being molested by unfriendly neighbors. The point which was presented to the sea was protected by a platform, which with much labor and ingenuity had been constructed on a level with the houses, and overhung and guarded the rock. The whole seemed so skilfully contrived, and so firmly and well-executed, as rendered it difficult to be considered the work of the untutored tribes they had been accustomed to meet, had not their broken arms and implements, with parts of their manufactured garments, plainly evinced its inhabitants to be of the same race. While examining these abandoned dwellings, and admiring the rude citadel projected from their defence, the exploring party was suddenly assailed by an unexpected enemy, whose legions made

so furious an attack upon each of their persons, that, unable to vanquish their foes, or to sustain the conflict, they rushed up to their necks in water. This expedient, however, proved ineffectual; nor was it till after all their clothes were boiled that they were disengaged from an immense horde of fleas, which they had disturbed by examining too minutely the filthy garments and apparel of the late inhabitants.

Messrs. Puget and Whidbey devoted the first five days of July to examining the main channel of the Gulf of Georgia and of the land to the south of it. While doing this work they for the first time touched Vancouver Island, the exact place being at Cape Lazo. Here there is a kelp bar where great quantities of kelp grow during the summer. There is now a wireless station on Cape Lazo.

Meanwhile another party under Mr. Johnstone returned from exploring the region of Bute Inlet. On its western shore they found an Indian village, situated on the face of a steep rock and containing about one hundred and fifty inhabitants. From the point on which the village was erected, a very narrow opening was seen stretching to the westward, and through it flowed so strong a current, that the boats, unable to row against it, were hauled by a rope along the rocky shores forming the passage. Having passed these narrows with the aid of the Indians, the explorers found that the channel widened and the rapidity of the tide decreased. The boats now sought shelter from the inclemency of the weather in a small cove on the south side of the arm they had quitted. Here they were detained until the morning of July 2, when they returned to the ships.

The weather being tolerably fair, Mr. Johnstone and

Mr. Swaine were again dispatched, Wednesday, July 5, to examine the continental shore through Arran Rapids, the narrow passage from whence they had returned. On July 12, they returned and Mr. Johnstone announced that a passage leading into the Pacific Ocean to the northwestward had been discovered.

He further reported that he had succeeded in finding his way through Arran Rapids into Cordero Channel, the arm leading to the westward, making the intermediate land lying before the entrance into Bute's Channel, nearly a round island three or four leagues in circuit, which obtained the name of Stuart's Island. He found Cordero Channel was not less intricate than Arran Rapids, neither of which he considered a safe navigation for shipping, owing to their being so narrow, to their irregular direction and rapidity of the tides, and to the great depth of water.

I voyaged on Bute Inlet on the steamship Cassiar by way of what is known as the Homfray-Bute Inlet route. This arm of the sea penetrates the mainland for nearly forty miles in a winding course to the northward, with a general width varying from one to two miles. The shores on both sides rise abruptly and almost perpendicularly in many places to stupendous mountains from five to eight thousand feet high whose summits are generally covered with snow all the year round.

Cordero Channel, through which Messrs. Johnstone and Swain passed from Arran Rapids, winds from its entrance between Stuart and Valdes islands, in a general east and west direction for nineteen miles, with an average width of one mile at the eastern part, but only half a mile in the western. Its shores are generally rocky and mountainous, and the channel is studded with numerous small islands, and it is not without

dangers, the water in most parts, however, being very deep. Formerly it was considered unsafe to enter or leave Cordero Channel by its eastern entrance; now, however, this passage and others are much used by the lumber industry in towing rafts, for if they come southward through Discovery Passage, the western route, they have to cross the Strait of Georgia, where they often meet with heavy weather which breaks up their rafts. They therefore prefer to take an eastern route through Cordero Channel and Uaculta Rapids, or by Hole-in-the-wall, for by so doing they can proceed southward along the coast of the mainland through sheltered channels.

I visited Loughborough Inlet on the steamship Cheakamus via the Shoal Bay – Loughborough Inlet route, July 5, 1918, that being just one hundred and twenty-six years after Johnstone's visit to it. July 6, Mr. Johnstone and his party continued their researches along Chancellor Channel leading to the westward, in which they found the tide approaching them from the westward. Chancellor Channel through which they had passed, is eight miles long and leads into Johnstone Strait. Its western entrance is between Point Eden in latitude $50^{\circ} 24\frac{1}{2}'$, longitude $125^{\circ} 50'$, and the west end of West Thurlow Island, and the south coast of Hardwick Island, where it is half a mile wide with depths of over forty fathoms; the channel, however, widens gradually from the entrance to a general width of a little under a mile.

Mr. Johnstone found that about two leagues west from Cordero Channel, the arm they had quitted, the channel again branched off in two directions, one, Wellbore Channel, stretching a little to the northward, and the other, the continuation of Chancellor Channel,

to the southward of west. The former, Wellbore Channel, demanded their first attention, and was found to be an intricate passage, containing many sunken rocks and rocky islets, occasioning great irregularity in the tides, which were extremely violent; this continued about two leagues, where the channel widened, and the water became less agitated. Their course along the continental shore led them into a continuation of Chancellor Channel. They continued along the northern shore of this channel in the firm reliance of finding it to lead to the ocean. Under this impression, Mr. Johnstone thought it of importance to ascertain the fact as speedily as possible; for which purpose, he steered over to the southern shore of Johnstone Strait, which they found was nearly straight, and entire, rising abruptly from the sea to mountains of great height.

Mr. Johnstone and his party made slow progress to the westward through Johnstone Strait, in consequence of a fresh gale from that quarter. On the morning of the 8th they passed an Indian village, on what is now known as Alert Bay. A westerly wind and pleasant weather returning with the morning of the 10th, they rowed to an island conspicuously situated, from whence their expectations were gratified by a clear though distant view of the ocean. The land constituting the different shores of the passage appeared of moderate height, much broken, and seemed to form various other channels to the sea. From here they directed their course homeward, being upwards of one hundred and twenty miles from the ships, where, as we have already seen, they arrived on July 12.

Vancouver made Señors Galiano and Valdes acquainted with the discoveries that had been made, and of his intention of departing in consequence thereof.

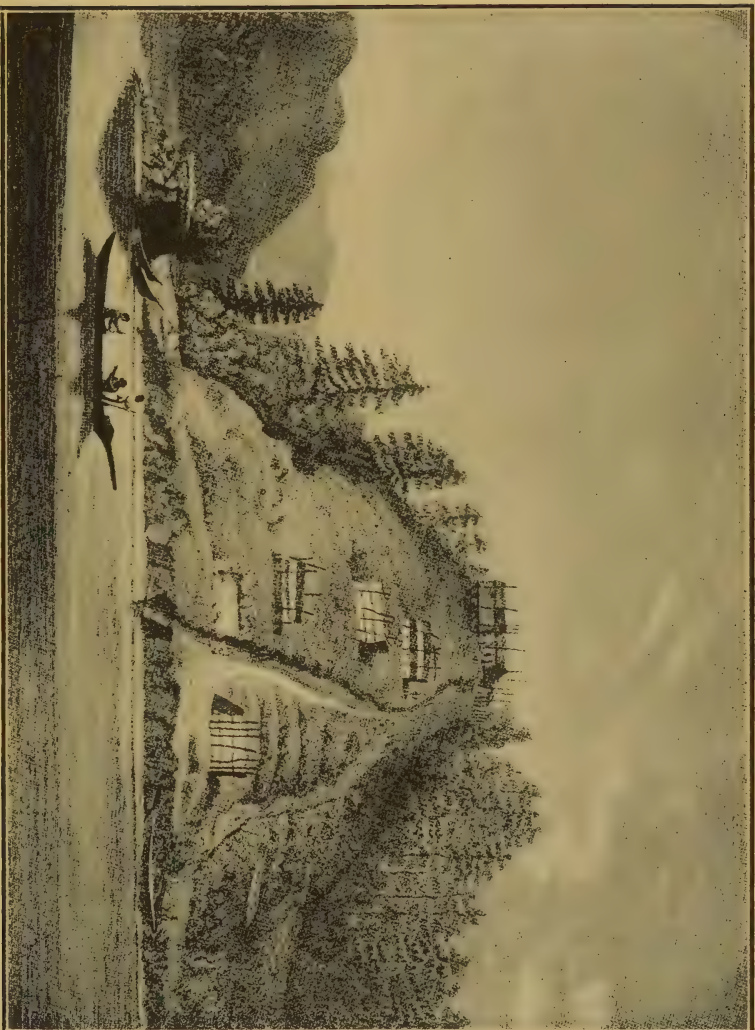
These gentlemen now begged leave to decline accompanying Vancouver further, as their miserable vessels were unequal to a co-operation, and they were apprehensive their attendance would retard Vancouver's progress. Señor Galiano favored Vancouver with a copy of his survey, and other particulars relative to this inlet of the sea, which contained also that part of the neighboring coast extending northwestward from the Straits of De Fuca, beyond Nootka to latitude $50^{\circ} 3'$, longitude $232^{\circ} 48'$. He likewise gave Vancouver a letter to be forwarded to Señor Quadra at Nootka, by Chief Maquinna, or any of his people with whom he might chance to meet, together with an introductory one to Señor Quadra, when he should have the pleasure of meeting him at Nootka. After an exchange of good wishes, they bade each other farewell, having mutually received every kindness and attention that their peculiar situation could afford. Vancouver was assured that on his arrival at Nootka he would meet a most cordial reception, and be more pleasantly situated than he could imagine, as the houses there had lately undergone a thorough repair, and all the gardens had been put in the highest order for the purpose of being so delivered into his possession.

With a light breeze from the northward, in the morning of Friday, July 13, Vancouver weighed anchor in Desolation Sound and left his Spanish friends, they intending to pursue their researches to the westward through the channel Mr. Johnstone had discovered, which was by Vancouver named Johnstone Straits. It was James Johnstone who was thus honored. Professor Meany says: "Little is known of his life. He entered the navy as a midshipman on the Keppel brig on the American station, under Lieutenant

Whitworth." From Vancouver's *Journal* we learn that in 1790 he was mustered on the tender Chatham under Lieutenant Broughton as master. He held that place until August, 1792, when Vancouver, who regarded him as one of his most valuable aids, made him a lieutenant of the Chatham. Professor Meany further says that he became a commander on June 22, 1802, and was advanced to the rank of captain June 22, 1806. Afterwards he was a commissioner at Bombay.

From Desolation Sound Vancouver directed his course southward, trusting that they would find a passage into Johnstone Straits westward of Point Mudge. In this route they passed through the assemblage of islands and rocks lying at some distance before the entrance into Desolation Sound. These were mostly of a moderate height from the sea, tolerably well wooded, and the shores not wholly composed of rugged rocks afforded some small bays bounded by sandy beaches. Numberless whales enjoying the season were playing about the ship in every direction, as were also several seals; the latter had been seen in great abundance during their residence in Desolation Sound, and in all the remote excursions of the boats, but they were so extremely watchful and shy that not one could be taken. As the explorers were crossing the gulf they were visited by several canoes of friendly Indians who brought young birds, mostly sea fowl, fish, and some berries, to barter for trinkets and other commodities. Soon after mid-day they anchored about half a mile to the northward of Point Mudge, so named by Vancouver after his first lieutenant. It is now known as Cape Mudge.

Vancouver and some of his officers visited the Indian village on this point. They were received by a man



VILLAGE OF FRIENDLY INDIANS
At the entrance of Bute's Canal

who appeared to be chief of the party. He approached them alone, seemingly with a degree of formality, though with the utmost confidence of his own security, whilst the rest of the Indians were arranged and seated in the most peaceable manner before their houses. Vancouver made him presents, and the chief immediately conducted them up to the village by a very narrow path winding diagonally up the cliff, about one hundred feet in height and almost perpendicular. Close to the edge of this precipice stood the village, the houses of which were built after the fashion at Nootka, though smaller, not exceeding ten or twelve feet in height, very close together in rows, separated by a narrow passage sufficiently wide only for one person. On the beach, at the foot of the cliff, were about seventy canoes, mostly small, though amongst them were some that would carry at least fifteen persons. On a computation, therefore, deduced from these and other circumstances, they were led to conclude that this village, though occupying a very small space, did not contain less than three hundred persons. The spot where it was erected was well chosen to insure its protection; the steep, loose, and sandy precipice secured it in front, and its rear was defended by a deep chasm in the rocks; beyond these was a thick and nearly impenetrable forest; so that the only means of access was by the narrow path they had ascended, which could be easily maintained against very superior numbers. On a low margin of land extending from the more elevated woodland country, the explorers saw two sepulchres built with plank about five feet in height, seven in length, and four in breadth. These boards were curiously perforated at the ends and sides, and the tops covered with loose pieces of plank, as if for the purpose of admitting as great cir-

culatation of air as possible to the human bones they enclosed, which were evidently the relics of many different bodies.

Vancouver speaks of the peaceable manner in which these Indians "arranged and seated" themselves before their houses, and how "in an honest manner" they exchanged their fish and wild fruits for European articles. Such was not their reputation in after years, when this tribe, designated as the U-cle-tas, were known as the Ishmaelites of the country, whose hands were literally against every man, and every man's against them. In 1858 there was a great fight between them and the men of a northern tribe, and many were killed on both sides. In 1860 the U-cle-tas attacked and robbed some Chinamen, and escaped to their village at Point Mudge, which, being stockaded for protection against other tribes, they no doubt thought would be equally efficacious against white men. Her Majesty's gunboat *Forward* was sent to demand restitution, and on approaching the village was fired upon from the stockade with loud shouts of defiance. The gunboat first fired a shell or two over the Indians but they mistook this leniency for inability to hit them, and coming out in front of the stockade fired several volleys at the gunboat, which fortunately fell harmless against her sides. The gunboat then opened fire upon the canoes on the beach, and lastly upon the stockade. It was not until several of the natives were killed that the Indians came to terms, and restored the plunder. This experience and the good offices of the missionaries since then has worked a complete reformation among these Indians. Cape Mudge is now an Indian reservation for the benefit of these people.

On July 16, Vancouver's ships passed out of Dis-

covery Passage into Johnstone Strait. On their way they sailed through Seymour Narrows, probably named in honor of Lord Hugh Seymour of the British navy. It is a strait nearly two miles long and in places very narrow. The tides and tidal streams run with great velocity, the flood or south-going stream attaining a rate of twelve knots at some of the highest tides and and the ebb of ten knots. To the natives the Narrows were known as Yaculta, the home of an evil spirit, who lived in their depths and delighted to snatch canoes and devour their occupants, and to vex and toss the whales about. She slept only at slack-tide, and then boats or ships might go through in safety, provided they did not make sufficient noise to awaken her. If they tried to go through at any other stage of the tide, Yaculta stirred the whole passage into action in trying to get hold of them.

Many vessels have been wrecked in trying to pass through these Narrows. June 18, 1875, the United States steamship *Saranac* was lost. She entered the Narrows too late, was caught in the current, and struck broadside on Ripple Rock. She swung off and headed for the Vancouver shore, and was there made fast with hawsers to trees. There was only time left to lower a boat with the papers of the ship and a few provisions, when she sank in sixty fathoms of water. The escaped crew camped on the shore and remained there while a small boat went to Nanaimo for help. In 1882 the United States steamship *Wachusett* entered the Narrows too late, and was seized by the current, drawn down into a big eddy and hurled against Ripple Rock with such force that the false keel was entirely torn away. In 1883, the coasting steamer *Grappler*, returning with a pack and crew from the northern canneries, took fire

as she entered the Narrows. The hemp rudder-ropes burned; the frantic passengers leaped overboard as the boat careened and whirled in the rapids; the captain, with his life preserver belted on, was sucked down in an eddy and lost his life. A few, however, made their escape. The rings of floating kelp that drift in the race-way, are said by the natives to be the queues of the seventy Chinese who were lost at that time.

I have passed through these Narrows many times, the first voyage having been made in the steamship *Princess Royal*, Sunday July 23, 1911. The day was a most beautiful one with a cloudless sky. We arrived at ten o'clock in the morning. Just before entering we saw a neatly painted British man-of-war at anchor in Menzies Bay near the Vancouver shore. The crew, in their Sunday garb, were in small boats fishing in the bay. Between this vessel and the Narrows was the hulk of a vessel which had been wrecked in trying to pass through them. From our boat as we entered the Narrows we could see the "gorge white with foam, waves rearing and breaking madly, deep holes boring into the water, fountains boiling up like geysers," with a great trough next the shore and a bulge in the center of the stream over Ripple Rock. Our ship reeled, shook in a most violent manner, staggered without making any headway, and after persistent effort to stem the tide, turned about, retreated, cast anchor in Menzies Bay and remained there until three o'clock in the afternoon. Then she steamed through the Narrows on a smooth surface of water. Just after we passed through we saw the steamship *Spokane* beached in Plumper Bay, a cove to our starboard. She had struck Ripple Rock a few days before with a loss of two lives.

One of the most stupendous undertakings in railroad

construction is the proposed building of a railway and traffic bridge across Seymour Narrows. This was first proposed in 1873, and the cost was estimated at eighteen million dollars. The Canadian government found itself unable at that time to meet such a heavy outlay and nothing further was done. The agitation, however, has since been kept alive and it now seems probable that the bridge will ultimately be built. The purpose of this movement is to connect Victoria and the other coast cities of Vancouver Island with the remainder of British Columbia, Manitoba, Alberta, and Saskatchewan, the three prairie provinces of Canada.

Vancouver's vessels entered Johnstone Strait on the morning of July 16, and were immediately affected by more swell than they had experienced in this inland navigation, indicating that the ocean, in a westerly direction was not quite so remote as it had been estimated to be by Mr. Johnstone. After they had proceeded about ten miles from Point Chatham, the tide made so powerfully against them as to oblige them to anchor in a bay on the northern shore of Thurlow Island, so named by Vancouver in honor of Edward, first Baron Thurlow. About four in the afternoon they again proceeded but made little progress on account of a fresh westerly gale and anchored again nearly abreast of Thurlow Island.

The explorers now began to see Indians who were armed with muskets and possessed other articles of European manufacture. From some of the Indians they were able to purchase a supply of fresh salmon. Late in the evening of July 19, they anchored off the Indian village where they expected to find Maquinna. The next morning showed the village to be large and populous. Visitors brought them an abundance of the

skins of the sea otter, of excellent quality, which were bartered for sheet-copper and blue cloth. The Ty-cie, or chief of the village, paid the ship an early visit, and received from Vancouver some presents which highly delighted him; Vancouver understood his name to be Cheslakees. He acknowledged Maquinna to be a greater chief, as he also did Wicananish, but so far as Vancouver could learn, he did not consider himself to be under the authority of either. On being asked if Maquinna was at the village, he answered in the negative, saying they seldom visited, and that it was a journey of four days across the land to Nootka Sound.

Accompanied by Mr. Menzies, some of the officers, and Cheslakees, Vancouver repaired to the village and found it pleasantly situated on a sloping hill above the banks of a fine fresh water rivulet, discharging into a small creek or cove. The houses, in number thirty-four, were arranged in regular streets; the larger ones were the habitations of the principal people who had them decorated with paintings and other ornaments, forming various figures. The house of Cheslakees, was distinguished by three rafters of stout timber raised above the roof, similar to the architecture at Nootka. The other houses were constructed after the same manner of architecture, but appeared rather less filthy, and the inhabitants were undoubtedly of the same nation, differing little in their dress, or general deportment. Several families lived under the same roof, but their sleeping apartments were separated, and more decency seemed to be observed in their domestic economy than Vancouver recollected to have been the practice at Nootka. The women, who in proportion appeared numerous, were variously employed; some in their different household affairs, others in the manufacture of

garments from bark and other material. The making of mats for a variety of purposes, and a kind of basket, wrought so curiously close as to hold water like an earthen vessel without the least leakage or drip, comprehended the general employment of the women, who were not less industrious than ingenious.

At the conclusion of this visit Vancouver and his party were entertained at the house of an elderly chief with a song by no means unmelodious, though the performance of it was rendered excessively savage, by the uncouth gestures and rude actions accompanying it. The song being finished, the Vancouver party were each presented with a strip of sea otter skin, the distribution of which occupied some time. After this ceremony a song from the ladies was expected. During this interval Vancouver observed in the hands of the numerous tribe that then surrounded them, many spears pointed with iron, clubs, knives, and other weapons with which they were not furnished on their first approach to the village. Vancouver was not altogether satisfied with this change in their appearance, though he had every reason to believe their intentions were of the most in-offensive nature, and that it was most probable they had thus produced their arms to show their wealth, and impress them with an idea of their consequence. Vancouver, however, deemed it most advisable to withdraw, and informed Cheslakees that he was about to retire; on which he, with his relations, accompanied them to a sandy island, now known as Cormorant Island, whither Vancouver went to observe its latitude.

Alert Bay, upon the shore of which the Indian village is located, is three-quarters of a mile wide and half a mile long, and affords well-sheltered and good anchorage in from five to eight fathoms of water with

sand and mud bottom. The first thing that attracts the attention of the tourist on rounding into Alert Bay, is the Indian burial ground on the south point on the right hand as the bay is entered. It is fantastically decorated with streamers and flags of different colors, and a variety of grave fences and epitaphs. The next thing which particularly attracts his attention is a fine totem pole, about thirty feet high, strangely carved and painted, which guards the entrance to the chief's house. There are many of these totem poles in the village, which has a population of about two hundred individuals. The village is located on the eastern shore of the bay, and has a post office and salmon cannery. Round the northern shore are the church and establishments of the Church Missionary Society's Mission, including a sawmill and pier, with about twelve feet of water at its extreme. Here the salmon cannery has turned its attention to the canning of clams, which abound in the waters of the neighborhood.

I first approached Alert Bay, July 23, 1911, at 7:45 P. M. The sky was clear, but the mountains in the distance seemed almost enveloped with white floating clouds, the effect of which was most beautiful. Sunset was at 8:15 o'clock, making fifteen hours of continuous sunshine—the longest day of sunshine that I had ever experienced. At 8:30 o'clock the mountains were enveloped in a mist, and at 8:45 we were at Alert Bay with its totem poles, the first that I had seen. The village was close to the water's edge, along which were Indian men, women, and children and their dogs. We left the bay the next morning at 5:30 o'clock, with the fog horn blowing, the fog not having yet fully disappeared. This to me was a new and a most interesting experience. I have

visited the bay frequently since then and have always found it attractive and interesting. Alert Bay was named after the Alert, an English man-of-war that was in service in the North Pacific waters and was lost while entering the harbor at Sitka.

Vancouver did not explore Broughton Strait and Goletas Channel. It is my thought, however, having voyaged through them several times, that this book will not be complete without some consideration of these important bodies of water and their accessories. Broughton Strait, connecting Johnstone Strait with Queen Charlotte Sound, lies between Vancouver and Malcolm islands. It is fifteen miles long, and varies in width from one to four miles. There are several islands in the eastern part of the strait, of which the principal ones are Cormorant and the Pearse islands. The high mountain ranges which rise abruptly from the southern shore throughout the whole course of Johnstone Strait, in one almost continuous chain, recede considerably from the shore line on entering Broughton Strait and become detached into more or less isolated groups, leaving the land near the coast comparatively low.

From Beaver Cove the coast trends in a westerly direction for five miles to the mouth of the Nimpkish River, and is rocky and comparatively low. This river, which is the outlet of Nimpkish Lake, flows into the strait at the head, a bight in the coast abreast of Cormorant Island. The river is encumbered with rapids and is only navigable for canoes except for a short distance within its mouth.

Beaver Harbor, in latitude $50^{\circ} 43'$, longitude $127^{\circ} 25'$, is on the south side of Queen Charlotte Sound, about eleven miles west of the western entrance to Broughton Strait. The shores of the harbor are com-

paratively low and are wooded. Point Thomas, the southeast point of the harbor, is low and a rocky ledge dries out one cable northward from it. Two thirds of a mile west from Point Thomas the land is cleared, and there is a large Indian village and a mission station on the site of the old Fort Rupert of the Hudson's Bay Company.

Fort Rupert originally was known as Fort McLoughlin, and was located in Millbank Sound. About 1839, the Hudson's Bay Company removed it to where it is now located and rechristened it Fort Rupert. It was strongly fortified because of the hostility of the natives near it and the frequent visits of the Haida and other northern tribes of Indians. It stood in the middle of the Indian village. It was surrounded by beautiful gardens. For a stockade, pine trees were sunk into the ground and fastened together on the inside with beams. Round its interior ran a gallery, and at two opposite corners were flanking bastions mounting four nine-pounders. Within were the usual shops and buildings, while smaller stockades protected the garden and out-houses. Here was to be seen the chief's house, which was a famous lodge one hundred feet long and eighty feet wide, resting on carved posts; also, a great pot-latch dish in the shape of a recumbent man, holding food enough for one hundred people. An earthquake in 1865, did much damage to the fort and at present nothing but its ruins are to be seen.

The Kwakiutl Indians of Fort Rupert, like those of Alert Bay, were war-like and cruel. As the steamer on which William Duncan, the Apostle of Alaska, first went north to his mission in 1857, approached Fort Rupert, dismembered and disembowelled human bodies were seen strewn all over the beach of a near-by

island. A few days before, a Haida canoe had come to trade with the Fort Rupert Indians. Some slight breach of etiquette on the part of the visitors brought upon them the rage of the local Indians. They did nothing at the time, save to nurse their wrath. But when the time for departure came a large party that had preceded the Haidas, laid in wait for them at the nearby island where they knew they would camp for the night, and killed every one of them except two young men, who were made slaves, one of them being the son of a Haida chief. And there the dead bodies, mangled and mutilated, were allowed to lie scattered over the beaches of the passage as a proof of the prowess of the slayers. In 1867 the village was bombarded by the British warship *Clio* until the tribe surrendered some murderers. Since then the Kwakiutls have been peaceable and their annals eventless. Now the young men of the village desert it every summer to work at the mills and fish canneries.

Beaver Harbor was named after the historic steamer *Beaver* which was commanded by Captain William McNeill. She was the first steamship to navigate the north Pacific and was owned by the Hudson's Bay Company. She was built in Blackwell, England in 1835; and sailing around Cape Horn from England, carrying in her hold her own machinery, arrived at Fort Vancouver in the spring of 1836. There her machinery was set up and she was converted from a sailing vessel into a steamship. Though clumsy, she was substantial, her oak timbers being unusually heavy. Her small wheels were placed far forward like the fins of a seal, her square poop stood high out of the water, slanting toward the rudder. Long before Victoria was dreamed of, this small black *Beaver* was

plying her paddles through the glistening waters of cold, placid sounds and bays around Vancouver Island and far to the northward. Every year, with the utmost regularity, she made her rounds among the northern stations, leaving Victoria, after the Hudson's Bay establishment had been moved to that place, in April and returning in November. The natives of the various localities knew almost to a day when to expect her, and were always on hand with their skins to trade for clothing, blankets, arms, and tobacco; a full supply of which the little steamer always carried. February 13, 1883, she ran on the rocks at the first narrows in Burrard Inlet, filled and sank. Afterwards, she was raised and beached at Brannville, and now under the bold, high bluff of Brockton Point promontory are her remains, the prey of relic hunters and the *teredo*.

While anchored near Broughton Island, Vancouver was visited by a few Indians, among whom was Chief Cheslakees from Alert Bay. Cheslakees remained on board the *Discovery* the most of the day. He sat at Vancouver's elbow whilst he was writing, and saw him frequently advert to a small memorandum book, which unperceived he managed to take away in a most dexterous manner. He contrived to fold it in a very small compass in a Sandwich Island mat which Vancouver had given to him. Vancouver knowing that no other person had been near him could not be mistaken as to who had purloined the missing book. Cheslakees, when accosted, appeared somewhat ashamed at the detection, but more mortified when Vancouver took from him the presents he had given to him. These, however, about two hours afterwards, on his penitential application, were restored to him by Vancouver. In this connection, Vancouver says: "Steal-

ing a book, incapable of being in the least degree serviceable to him, or useful to any other person than the owner, strongly marked that natural inordinate propensity to thieving, which with few exceptions, influences the whole of the uncivilized world, as if impelled by mere instinct, and destitute of reason, they were unable to restrain such inclinations."

For many days the explorers continued to work their way northwestward, examining the coasts on both sides and naming islands, inlets, capes, and other points of interest. On the afternoon of August 6, in Labouchere Channel the *Discovery* ran upon a bed of sunken rocks. A signal indicating the situation was immediately made to the *Chatham* and she anchored in fifty fathoms of water, about a cable and a half from the *Discovery*, and all of her boats were sent to the assistance of the *Discovery*. The stream anchor was carried out, and an attempt made to heave the ship off, but to no effect. The tide fell very rapidly, and the force with which the ship had grounded, occasioned her swerving considerably forward. On heaving, the anchor came home, so that they had no resource left but that of getting down their topmasts, guards, etc., shearing off the vessel with spurs and spare topmasts, and lightening her as much as possible by starting the water, and throwing overboard their fuel and part of the ballast they had taken on board in the spring. Soon after the ship was aground, the tide took her on the starboard quarter; and as she was afloat abaft it caused her to take a sudden swing, and made her heel so very considerably on the starboard side, which was from the rocks, that her situation for a few seconds was alarming in the highest degree. The shears were got over with all possible dispatch, but notwithstanding this, by the time it was low water,

the starboard main chains were within three inches of the surface of the sea. When the tide was at its lowest, about nine o'clock at night, the ship's fore foot was only in about three and a half feet of water, whilst her stern was in four fathoms. In this uncomfortable situation, they remained, expecting relief from the returning flood, which to their inexpressible joy was at length announced by the floating of the shears, a happy indication that the ship was righting. Their exertions to lighten her were, however, unabated until about two o'clock next morning, when, the ship becoming nearly upright, they hove on the stern and, without any particular efforts, or much strain, had the satisfaction of feeling her again afloat, without having received the least apparent injury.

That same afternoon, the Chatham also ran upon the rocks. The Discovery was instantly anchored, and her boats were sent to the assistance of the Chatham. One of them soon returned with the information that the Chatham had been driven by the tide on a ledge of sunken rocks, but had the consolation of hearing, that although she had frequently struck when lifted by the surge, it had not been violently; that no damages had yet been sustained; and that her present very uncomfortable situation could not be of long duration, as it was nearly half ebb when she grounded. She did, in fact, get safely off.

This mishap occurred when they were near the open sea, yet islands, fogs, and other obstacles so delayed them that it was not until the 9th that they reached a place where the ocean ahead seemed perfectly open and uninterrupted. They had now arrived at a part of the coast that had been visited by traders from Europe and India. The Experiment, commanded by Mr. S.

Wedgborough, passed through the inlet and he named it Queen Charlotte Sound. This and other names by the first discoverers of the coast were adopted by Vancouver in his charts and journal.

The dangers to which his ships were exposed still continue to exist in these waters. Fogs on the coast northward of Cape Caution are prevalent, especially during the summer months. The northwest winds, which prevail during that season, condense the vapor which arises from the comparatively warm water surrounding Queen Charlotte Islands and the coast of southeastern Alaska. During the prevalence of the northwest winds this vapor is dispersed, but during calms or with light winds, and especially with southwesterly winds succeeding northwest winds, it approaches quickly from seaward in the form of dense fog, or drizzling mist and rain. At times fog will be found at the entrances to the sound during the forenoon, dispersing near noon by the heat of the sun, the afternoon becoming clear and fine. In the outer parts of Queen Charlotte Sound it has been observed that the fog sweeping in from eastward often breaks up after passing the groups of islands blocking the sound, making a line of fog-bank stretching between the Gordon and Millar groups, and leaving the area to the southeast of this line comparatively clear. A great current which exists in the Northern Pacific Ocean and Bering Sea is known to the Japanese as the Kuro Siwo or Black Stream from its color as compared to other waters of the Pacific. By geographers it is called the Japanese current. This current splits on the western end of the Aleutian chain of islands; one portion of it sweeps eastward south of the Aleutians and, striking the shore of the continent, is deflected southward. It carries

with it a warm, moist atmosphere, which is condensed on the snowy peaks of the coast ranges and causes the remarkable rainfall which characterizes the coast as far as Oregon. It is this that bends the isothermal lines northward and makes the temperature depend on the distance from the sea instead of the distance from the equator and creates the mild climate of the southern portion of Alaska and in fact that of the whole northwest coast of America as compared with the northeast coast. The constant moisture caused by this current and the long summer days force vegetation like a hot-house and makes the density of the forest and the luxuriance of the undergrowth equaled only by that of the tropics.

Queen Charlotte Sound is an extensive arm of the sea, connecting the inner waters northeastward of Vancouver Island with the Pacific. The sound extends in an east-southeast direction, and is fifty miles long, with an average width of from ten to fifteen miles, being bounded on the north by the coast of the mainland and on the south by the northeast of Vancouver Island. In the western half of the sound are numerous rocks and islands through which are the two good broad Goletas and New channels, and on the northern shore along the coast of the mainland is the North Channel, somewhat obstructed by islands and shoals.

I first crossed Queen Charlotte Sound, July 24, 1911, our vessel having entered it through Goletas Channel at 12:15 P. M. A dense fog closed in about us and presently we were at sea with no land in sight. The fog horns kept up a constant warning, which was responded to by the blowing of the whistle of the steamship. The sea was rough and our vessel dipped and rocked violently. Most of the passengers found it

necessary to return to their berths, but it was my good fortune not to find it necessary to do so. In this respect I have found that I am a very good sailor. I enjoyed the tempestuous sea; it was a new experience to me. The return trip was the very antithesis of the former. Our vessel entered the sound from Fitzhugh Sound at 3:30 P. M. The weather was balmy; the sky was azure blue with cumulus clouds floating overhead; snow-capped mountains were seen in the distance; the sea was gently wavy, shimmering, and sparkling like a million diamonds; the ship was followed by a long trail of white foam and by gulls, ever on the lookout for something to be cast overboard for them to eat. The sunset that evening was one of indescribable beauty. Notwithstanding, most of the passengers were seen in groups, here and there, playing cards, reading, talking, tatting, and seemingly unconscious of this wonderful display of beauty and grandeur.

From Queen Charlotte Sound the expedition proceeded to an investigation of Smith's Inlet and Fitzhugh Sound. A party under Lieutenant Puget and Mr. Whidbey explored the former, and about half way up it discovered a large Indian village. It was built upon a detached rock, connected with the mainland by a platform, and, like those before mentioned, constructed for defense. A great number of its inhabitants, in about thirty canoes visited the party, and used every endeavor to prevail on them to visit their habitations. They offered to barter skins of the sea otter and other animals; and beside promises of refreshment, made signs that could not be misunderstood, that the female part of their society would be very happy in the pleasure of their company, all of which offers were declined.

Smith Inlet, as it is now known and charted, is entered through Smith Sound, which, by that name, was not described by Vancouver. This sound is about eight miles long in an east and west direction, with an average width of three and a half miles, the entrance to it, between points Jones and Long being four and a half miles wide. At six miles within the entrance, on either side of a cluster of islands, is a channel leading into Smith Inlet.

On August 19, Lieutenant Puget and Mr. Whidbey entered Rivers Inlet, about a league north of Smith's Inlet. There are now seven large salmon canneries on the inlet, each with a wharf. A mail steamer calls at each of the establishments. It was my privilege to visit these places in 1918. We entered the inlet by the southern passage between Penrose Island and the mainland. To the north of us was a chain of small, round, tree-covered islands with bare, black, rocky bases, and to the south of us was a snow-capped peak. Whilst admiring and enjoying these beautiful surroundings, a gentleman asked me if I had read *Black Rock*, and when I answered that I had not, he assured me that I ought to do so, because it was based on the situation that surrounded us. This excited my curiosity, and on my return, I hastened to buy and read the book. Imagine my disappointment when I found that it is a tale of the Selkirks, and that not a sentence of it related to the black rocks of River's Inlet, the beauty of which is quite indescribable.

As we entered River's Inlet I counted seventy boats with Indians in them fishing. We first visited the Wadhams cannery, located on the south side of the inlet. Just beyond the Wadhams cannery we visited the Strathcona cannery, which we found to be well

located. I noticed that a fishing boat used in connection with it was numbered 1589. We arrived at the Kildala cannery at the head of the inlet at 2:30 P. M. The Wannock River enters the inlet at this point, and on the north side of it is located the Kildala cannery and a wharf which we visited; on the south side of the river is a sawmill, cannery, and a church, and on both sides of it is located the Indian Oweekayno village. Wannock River is the outlet of the Oweekayno Lake, and connects that lake with the inlet. Through this river the salmon reach the lake and from it enter its tributaries for spawning. The cannery of the British Columbia Company, known as the B. C. Cannery, was visited. The Victoria Sawmill is located at this port. Here we noticed the arrival of a large company of Indian men, women, and children. They had come to work in the cannery, and were a well appearing body of people. Here I noticed and gathered facts in connection with the cleaning of fish nets with bluestone. The McTavish cannery, a new one not in operation, was visited. Here also were several boat loads of Indians who had just arrived. They, too, were a good looking lot of people. The Brunswick cannery was visited. This we found was the most complete outfit in the inlet. Near by and in connection with it is a Methodist hospital for the use of injured and sick people from Smith and River's inlets. This cannery is located on the north side of the inlet and near to the approach to Schooner Passage, the entrance to which is three miles eastward of Lone Islet. This passage is about four miles long, with a uniform width of two cables. It has densely wooded shores and presents the appearance of a broad, beautiful canal meandering through the country. The sun was setting as we entered the

passage which gave to the scene a most charming effect. Beaver cannery was the next one visited. It is located in a cove off the south side of the passage. The vessel as it approached the cove disturbed a flock of fifty or more bald eagles of all sizes that had gone to roost for the night in the trees that bordered the cove. As they circled in flight in the twilight about the cannery they made for me a novel and attractive sight—one that I shall not forget. Never before had I seen a flock of eagles.

Nootka Sound

On August 17, while lying in Safety Cove awaiting the return of some of his boats, which were out exploring, Vancouver was surprised by the arrival of a British vessel off the entrance. She proved to be the brig *Venus* belonging to Bengal, commanded by Mr. Shepherd, lately from Nootka and bound on a trading voyage along these shores. From her Vancouver received the pleasant tidings of the arrival at Nootka of the store ship *Dædalus*, laden with a supply of provisions and stores for the expedition's use, and he also learned that Señor Quadra was waiting there with the greatest impatience to deliver up the settlement. Vancouver now resolved, in consequence of this intelligence, to abandon the northern survey of the continental shore for that season. On Sunday, August 19, they took their leave of these northern solitary regions, and sailed out of Safety Cove, their route being through Hakai Passage, in order to make the best of their way towards Nootka.

On reaching the entrance to Nootka Sound, Vancouver was visited by a Spanish officer, who brought a pilot to conduct the *Discovery* to an anchorage in Friendly Cove, where they found riding his Catholic Majesty's brig *Active*, bearing the broad pennant of Señor Don Juan Francisco de la Bodega y Quadra, commandant of the marine establishment of San Blas and California. The *Dædalus* store ship and a small merchant brig called the *Three Brothers of London*, was also there. Señor Quadra received the explorers

with many civilities, including a formal dinner, at which the health of the sovereigns of Great Britain and Spain was enthusiastically drunk.

Señor Quadra omitted no opportunity of impressing on the minds of the natives the highest and most favorable opinion of Vancouver's little squadron; and the more effectually to insure a good understanding in the future he proposed a visit of ceremony to Chief Maquinna. It was agreed that they should set out the next morning for his royal residence, which was about seven leagues up the sound, at a place called Tahsheis. About 8:00 o'clock next morning Señor Quadra accompanied Vancouver in the *Discovery's* yawl, which, with their own and a Spanish launch and the *Chatham's* cutter, contained as many Spanish and English officers as could be taken, they departed for Tahsheis, which place they reached about two o'clock in the afternoon.

Maquinna received them with great pleasure, and it was evident that his pride was not a little indulged by their showing him this attention. He conducted them through the village, where they appeared to be welcome guests, in consequence perhaps of the presents that were distributed among the inhabitants, who conducted themselves in the most civil and orderly manner. After visiting most of the houses, they arrived at Maquinna's residence, which was one of the largest, though it was not entirely covered in. Here they found Maquinna's daughter, who not long before had been publicly and with great ceremony proclaimed sole heiress of all Maquinna's property and dominion. Near her were seated three of his wives, and a numerous tribe of relations. The young princess was of low stature, very plump, with round face, and small features; her skin was clean, and being nearly white, her person, though

without any pretensions to beauty, could not be considered as disagreeable. To her and to her father, Vancouver made presents suitable to the occasion, which were received with the greatest approbation by themselves and the throng which had assembled; as were also those made to his wives, brother, and other relations. These ceremonies being ended, a most excellent dinner, which Señor Quadra had provided, was served, at which they had the company of Maquinna and the princess, who was seated at the head of the table and conducted herself with much propriety and decorum.

During their conversation while on this little excursion, Señor Quadra very earnestly requested that Vancouver would name some port or island after them both, to commemorate their meeting and the very friendly intercourse that had taken place and existed between them. Conceiving no spot so proper for this as the place where they had first met, which was nearly in the center of a tract of land that had first been circumnavigated by them, Vancouver named that country the Quadra and Vancouver Island; with which compliment Señor Quadra seemed highly pleased. The island continued for a time to be known by that name. Afterwards it was changed by dropping the name Quadra, which name was transferred to an island due east of Vancouver Island across Discovery Passage.

Señors Galiano and Valdes arrived at Nootka Saturday, September 1, from the Gulf of Georgia. They had pursued a route through Queen Charlotte's Sound to the southward of that which Vancouver had navigated, and obligingly favored Vancouver with a copy of their survey. It will be recalled that Vancouver arrived at Nootka on August 28, that being three days

before the arrival of Galiano and Valdes. To whom then, belongs the distinction of having first circum-navigated Vancouver Island? Vancouver did not claim the distinction. In naming the island he designated it as, "a tract of land that had first been circum-navigated by us," meaning that it had been jointly navigated by himself and the Spaniards.

The Honorable E. O. S. Scholefield, Provincial Archivist, has very courteously furnished me with Memoir No. 1 of the Archives of British Columbia, entitled "The First Circumnavigation of Vancouver Island," by C. F. Newcombe, M. D. This memoir shows that Doctor Newcombe expended much time and means in making an exhaustive examination of the subject in hand, namely, not "The First Circumnavigation of Vancouver Island," but in his own language "to vindicate the contention of Captain George Vancouver that his ships were the first to complete the navigation of the inner channels which separate the island, now called by his name, from the mainland of British Columbia." Doctor Newcombe says: "The final proof of the insular character of Vancouver Island was made by the boat party, under Johnstone and Swaine, which was dispatched by Vancouver from a bay on the west side of Redonda Island, near the entrance of Desolation Sound, where the Spaniards and British were at anchor. Leaving this place on July 4, 1792, with only a week's provisions, the flying expedition passed to the northwest through the Euclataw Rapids, and onwards by Cordero and Wellboro Channels until they reached Johnstone's Straits, noting various inlets on the continental shore, which they partially explored. The mouth of the Nimpkish River was gained in the morning of the 8th, and helped by a

fresh easterly gale, the boat proceeded until midnight, when they sheltered under the lee of a small island, somewhere near the mouth of Queen Charlotte Sound." But this does not establish the fact that Vancouver had circumnavigated the island which by him was named the Island of Quadra and Vancouver. The circumnavigation of an island is to sail around it. This Vancouver did not finally accomplish until Tuesday, October 16, 1792, when he saw the entrance of De Fuca's Straits, which he had entered the preceding April 29. Galiano and Valdes sailed from Nootka June 4, and according to Vancouver, after having sailed around the island, arrived at Nootka the first of the following September. This shows a difference in time of forty-five days in favor of the Spaniards and for this reason to them must be given the credit of having first circumnavigated the island.

The West Coast of Vancouver Island

In the middle of October, 1792, Vancouver's little squadron left Nootka Sound and cruised southward along the American coast, stopping at San Francisco and other places and ultimately reaching Monterey in Mexico, where they were kindly entertained by Señor Quadra. Thence, in January, 1790, the *Discovery* and *Chatham* sailed for the Sandwich Islands, where the explorers spent some weeks.

The ships made their second departure from the Sandwich Islands on March 30, 1793. On May 2, the *Discovery*, which had parted company with her consort, sighted land a few miles northward of Rocky Point, the place named Porto de la Trinidad by Señor Quadra's expedition of 1775. About six that evening they anchored in this port and soon after were visited by two of the natives in a canoe, who in exchange for a few arrows and other trivial articles, received some iron, with which they returned to the shore highly pleased. After dark another party followed their example; these came with a large fire in their canoes. Two of them ventured on board of the ship, but could not be tempted to descend below the deck.

The next morning, Friday, May 3, Vancouver went on shore with a guard of marines, and a working party, in search of wood and water; these were found conveniently situated a little to the southward of a small Indian village. Most of the inhabitants of the village were absent in their canoes, trading alongside the ship,

leaving a few old women to attend Vancouver and his party. These Vancouver accompanied to their habitations, which consisted of five houses, neither wind or water tight, built of plank rudely wrought like those at Nootka. The entrance to these houses was a round hole in one corner of the house close to the ground, where with difficulty a grown person could find admittance. Four of these houses seemed to have been recently built and were on a level with the ground. These appeared to be calculated for two families of six or seven persons each; the other, which was smaller and nearly half under ground, Vancouver supposed to be the residence of one family, making the village according to this estimate contain about sixty persons. The merchandise of these natives consisted of bows and arrows, some very inferior sea otter skins, with a scanty supply of mussels of a very large size, small herrings, and some flat fish. Their numbers during the forenoon seemed to multiply from all quarters; particularly from the southward, whence they arrived both by land and in canoes. They seemed to have assembled in consequence of fire signals that had been made the preceding evening, soon after the last party returned to the shore. Those who came from the southward were all armed with bows and arrows. These they at first kept in constant readiness for action and would not dispose of them nor even allow their being examined by Vancouver's people. They seated themselves together, at a distance from the other natives, which indicated them to be under a different authority. At length, however, they became more docile and familiar and offered for sale some of their bows, arrows, and sea otter skins. Bows and arrows were the only weapons these people appeared to possess. Their arrows were made very

neatly and pointed with bone, agate, or common flint; and they had knives made of the same materials.

"The men seemed very careless and indifferent in their dress," says Vancouver; "their garment was thrown loosely over them, and was little calculated either for warmth or decency; for the former, they provided whilst afloat, by burning a large fire in their canoes; of the latter they were completely regardless. The women attended more particularly to these points; some were covered from head to foot with a garment of thin tanned hides; others with a similar though less robe of the like materials; under this they wore an apron, or rather petticoat, made of warmer skins not tanned, of smaller animals, reaching from the waist below the knees. Amongst these people, as with the generality of Indians I had met with, some mutilation, or disfiguring of their persons, is practised, either as being ornamental, or of religious institution, or possibly to answer some purpose of which we remain ignorant. At Trinidad the custom was particularly singular, and must be attended with much pain in the first instance, and great inconvenience ever after. All the teeth of both sexes were, by some process ground uniformly down, horizontally, to the gums; the women especially, carrying the fashion to an extreme, had their teeth reduced even below this level; and ornamented their lower lip with three perpendicular columns of punctuation, one from each corner of the mouth, and one in the middle, occupying three-fifths of the lip and chin. Had it not been for these frightful customs, I was informed that amongst those who visited our party on shore the last day, there were, amongst the younger females, some who might have been considered as having pretensions to beauty. The men had also

some punctuations about them, and scars on their arms and bodies, from accident, or by design, like the people who had visited us to the southward of Cape Orford."

On May 5, the *Discovery* left this place and, at daylight on the 18th, came in sight of the coast of the Island of Quadra and Vancouver. Two days later, she reached Nootka.

A Spanish officer who visited the *Discovery* prior to their anchoring delivered to Vancouver a letter, journal, and other papers left by Mr. Puget. By these documents Vancouver became informed that the *Chat-ham* had arrived at Nootka, on April 15, and had departed thence on May 18, agreeably to the instructions Vancouver had given Mr. Puget in the event of his not arriving there by about the middle of May.

In his voyage of 1793 Vancouver anchored but once on the west coast of Vancouver Island, and that was in Safety Cove, Nootka Sound, but as I became well acquainted with this coast in the course of a trip in the summer of 1918, I shall mention some of the most important and interesting places. The voyage in question was made upon the steamship *Princess Maquinna*, named in honor of the daughter of the chieftain mentioned earlier in this book.

The outer or western coast of Vancouver Island lies between Point Bonilla, at the entrance of the Straits of Juan de Fuca, and Cape Scott, the northwest extreme of the island, a distance of upwards of two hundred miles. It is broken with deep inlets, the principal of which are Barkley, Claoquot, Nootka, Kyoquot, and Quatsino sounds, all of which afford good and secure anchorage. The coast is mostly low and rocky, but rises immediately to mountains of considerable height.

It is fringed by numerous rocks and hidden dangers, especially near the entrance of the sounds, and the exercise of great caution and vigilance is required on the part of navigators to avoid them.

Barkley Sound, an extensive arm of the sea, about thirty-five miles northwestward of Cape Flattery, is thirteen and a half miles wide at its entrance, and though encumbered by numerous islands and rocks it maintains this breadth for eight miles inland, above which it separates into several narrow inlets or canals, the principal of which, the Alberni Canal, extends about twenty miles in a northerly direction, its head reaching within fourteen miles of the eastern or inner coast of Vancouver Island. The first discovery of this sound, the native name of which is Nitinat, was made in July, 1787, by Captain Charles William Barkley, commander of the *Imperial Eagle*, a British ship sailing under American colors. He made a sketch of the sound, which without giving him credit for it, was afterwards published by Captain John Meares. This sound has three main channels, namely Eastern, Middle, and Western. Like all the sounds on the west coast of Vancouver Island, Barkley is subdivided into several smaller sounds or arms, running five, six, or more miles inland.

Cape Beale is a bold rocky point one hundred and twenty feet high; rocks above and below water extend about three-quarters of a mile southward of it. This cape forms the eastern extreme of Barkley Sound. A lighthouse is located on a small islet close off Cape Beale, forty-two feet high, from which is exhibited, at an elevation of one hundred and seventy feet above the sea a flashing white light, visible in clear weather

a distance of eighteen miles. A life-saving station with a motor life-boat and life-saving appliance is situated on the western side of Banfield Creek.

The Eastern Channel of Barkley Sound is twelve miles long in a northeasterly direction, with a breadth varying from one to one and a half miles. Its shores are low and rugged, except in the north part, which becomes high. On the western side, three cables distant from King Island, are the Channel Rocks, one cable in extent. A lighthouse and whistle-buoy mark the eastern side of the Channel Rocks. At four miles within Cape Beale on the east side of Eastern Channel, lie the entrances to two creeks. Banfield, the southern, extends one and a quarter miles in a southerly direction, with a breadth of from one to two cables; the other, Grappler Creek, the northern arm, extends two-thirds of a mile eastward from the entrance of Banfield Creek, being about forty yards wide, with from eight to ten fathoms of water. Banfield Creek is a life-saving station and is connected with Victoria and Cape Beale by telegraph. The town of Banfield, named after W. E. Banfield of H. M. S. Constance, who lived for a time at this place and traded with the Indians, fronts north on Eastern Channel and has a post office, and is the terminus of the Pacific Cable Telegraph line, which connects Vancouver Island with New Zealand.

Alberni Canal, the continuation northeastward of Barkley Sound, extends in a winding northerly direction for twenty-two miles, with a width varying from two cables to one mile and terminates in a fine anchorage at its head; the shores on either side are rocky and rugged, rising abruptly from the sea to mountains two thousand to four thousand feet high; at the head, however, the land becomes low and fertile and a large

extent of it is fit for cultivation. This canal was named in honor of Don Pedro Alberni, a Spanish officer, who was in command of a company of volunteer soldiers in an expedition under Lieutenant Francisco Elisa that arrived at Nootka, April 5, 1790. One of the most delightful and interesting voyages that I have made was that through Alberni Canal in the afternoon of July 21, 1918. My notation, in leaving it was, "a wonderful voyage!"

Port Alberni, at the head of Alberni Canal, formerly charted as Stamp Harbor, is a secure anchorage, two miles in length and varying in width from four cables to one mile. A good road connects with the town of Alberni, which is located one and one-half miles up Somas River at the head of the inlet. The town of Alberni has a population of about six hundred people, with a church and post and telegraph offices. It is connected with Nanaimo and Victoria by railroad.

Clayoquot is the English of Clo-o-quoht, the name of a west coast tribe of Indians, and means a people different from what they formerly were. I have been unable to find who first used the name in naming Clayoquot Sound. On August 12, 1776, Lieutenant Bruno Heceta, who then was acting as commander of the Spanish ship *Santiago* on a voyage of discovery to the northward, noticed that in the first fifteen leagues above latitude 49° there were two salient points with a bight three or four leagues deep and a beach and low hills. Bancroft says, this "may have been Clayoquot Sound, or perhaps by an error of latitude Barclay Sound, farther south." Captain John Meares sailed south from Nootka, June 11, 1788, to Clayoquot Sound and spent two weeks during which time he was lavishly entertained by Wincananish, the Indian chief of that

region. He named the sound Port Cox. On the last day of August, 1788, Captain Robert Gray entered the sound and named it Hancock Harbor. He, too, was honored with a visit from Chief Wincananish. In May, 1791, Lieutenant Francisco Elisa spent about fifteen days in a careful examination of Cayuela or Clayoquot, and the adjoining region. In September, 1791, Captain John Kendrick was in the sound and obtained many furs before the arrival of Captain Gray on the 18th of the month. Captain Gray remained there during the winter and built a small vessel the materials for which had been brought in part from Boston.

Clayoquot Sound is composed of a number of inlets covering an area thirty miles long and sixteen miles wide. The entrance to it is fringed by numerous dangerous rocks, which require caution to avoid. It lies between Points Cox and Rafael, seventeen miles apart in a northwest and opposite direction.

Sidney Inlet, westward of Clayoquot Sound, is ten miles long in a northerly direction, and varies in width from a half to one mile. Its shores are high and rugged, rising abruptly from the sea for two thousand to three thousand feet. The Sidney Inlet copper mine is located on the side of one of these mountains, a thousand feet from the level of the sea. It is operated by the Sidney Inlet Copper Mining Company, and much good ore of a high grade is being taken from it. Our vessel anchored at its landing both going and returning from Port Alice, and I brought home with me some fine specimens of its ore.

On the afternoon of August 7, 1774, Juan Perez, in command of the Santiago, approached the west coast of Vancouver Island, cast anchor and called the anchorage San Lorenzo, which anchorage since then has

by some writers been identified as being the same as Nootka Sound. August 10, 1775, Bruno Heceta, lieutenant and acting captain of the *Santiago*, sighted land in the region of Nootka and saw a mountain in the northwest which resembled the peak of Teneriffe, and another farther south which resembled the Cuchillada de Roldan in Valencia. The first of these probably was Mount Victoria with an altitude of seven thousand, four hundred and eighty-four feet, and the second Mount Alexandra with an altitude of six thousand, three hundred and ninety-four feet. On March 29, 1778, Captain James Cook in making his third voyage entered Nootka Sound and anchored in eighty-five fathoms of water, so near the shore as to reach it with a hawser. Among other things he says: "The next morning, after coming to anchor, I lost no time in endeavoring to find a commodious harbour where we might station ourselves during our continuance. I had very little trouble in finding what we wanted. On the northwest of the arm we were now in, and not far from the ships, I met with a convenient snug cove well suited to our purpose. On my arrival in this inlet, I had honored it with the name of King George's Sound; but I afterwards found that it is called Nootka by the natives."

Captain Cook while in the sound made careful survey of it and the surrounding country and procured a considerable quantity of furs, which he carried with him on his return trip. In two respects these were of great value for they enabled him to study and describe the fur-bearing animals of the country and their value was learned in Siberia and China; this brought about the great fur-trade of the northwest Pacific coast.

Many navigators were at and in the vicinity of Noot-

ka before Captain Vancouver entered it. A brief mention of some of these follows. Captain James Hanna left China, in April, 1785, and reached Nootka in August. He left Nootka, in September, and reached Macao in December. Two vessels, the *Captain Cook* and *Experiment*, under the general supervision of Captain James Strange, reached Nootka in June, 1786. Captain Charles William Barkley arrived at Nootka in June, 1787, and obtained eight hundred skins, and, in July, sailed southward. Captains Duncan and Colnett in command of the *Princess Royal* and *Prince of Wales* sailed from England, in September, 1786, and arrived at Nootka, in July, 1787, and from there directed their course to the Queen Charlotte Islands. Captain John Meares, in command of the *Felice Adventurer*, sailed from Macao, in January, 1788, and anchored in Nootka Sound on May 13. He came prepared to and did build the first vessel on the North Pacific coast, and christened it the *North West America*. Meares gave Maquinna two pistols for the ground upon which he located and built the ship. He built for himself and men a two-story wooden house, and around this he threw up a breast-work and mounted on it a small cannon. Captain Robert Gray, in the *Lady Washington*, September 16, 1788, was towed into Nootka Sound by the aid of boats from the vessels of Meares and Douglas, which were at anchor in the sound. February 17, 1789, Commanders Estevan Joseph Martinez and Gonzales Lopez de Haro sailed from San Blas in the *Princessa* and *San Carolos* and, on May 6, the first named ship entered Nootka Sound and was followed by the other on the 13th of the same month. Martinez named the sound *Santa Cruz de Nutka*. He took formal possession of the port for

Spain, erected barracks for his men, and formed a battery of six or ten guns on Hog Island, commanding the entrance to the sound and the anchorage known as Friendly Cove. On July 3, 1789, Captain Colnett in command of the *Argonaut* was towed into the sound by a Spanish launch of Martinez. Lieutenant Francisco Elisa, in command of an expedition consisting of three vessels sailed from San Blas, February 3, 1790, and anchored in Nootka Sound April 5. He also took formal possession of the port by unfurling the Spanish flag and having it saluted by a general discharge of the newly mounted guns. He sailed to the northward, May 5, 1791. He was superseded by Alfarez Ramon Antonio Saavedra y Guyralda, who had sailed from San Blas in the *San Carlos*, February 4, 1791, and arrived at Nootka late in March. Alejandro Malispina, engaged in a scientific exploring voyage around the world, on August 13, anchored at Nootka. He at once set up an observatory on the shore and spent fifteen days in a scientific survey of the adjoining region. He sailed out of the sound on August 28. Captain John Kendrick in command of the *Lady Washington* sailed from the coast of China and with the help of the Spaniards entered Nootka Sound, July 12, 1791. From there he sailed to Mawinah, where he obtained about eight hundred sea otter skins. From there he sailed to Clayoquot, where he was also fortunate in obtaining many furs. The transport *Aranzazu*, under command of Lieutenant Jacinto Caamano, sailed from San Blas March 20, and arrived at Nootka May 14, 1792. It was from this place that he made an exploration of the northern coast of Queen Charlotte Islands, and the eastern coast of the strait dividing these islands from the mainland. Dionisio Galiano and Cayetano Valdes

sailed from San Blas in the *Sutil* and *Mexicana*, March 8, 1792, and arrived at Nootka on May 12, and, on June, 4, as we have already seen, started for a survey of the inland waters between the eastern coast of Vancouver Island and the mainland. Already a full account has been given of Vancouver's arrival at, and departure from Nootka Sound. I visited it in July, 1918.

I have mentioned the fact that Captain Cook had an opportunity at Nootka Sound of studying the fur-bearing animals of the northwest coast, and he evidently improved the opportunity, for the earliest English account and description of the sea otter that I have found is that in Cook's *Third Voyage Round the World*. This animal proved to be the turning point in the history of the North Pacific coast. It played an important part in the discovery by white men of all the region bordering Bering Sea on the south and east. After its practical extermination from Kamschatka, the Russians, in the middle of the eighteenth century, gradually uncovered and devastated its haunts on the Aleutian Islands and the neighboring groups until its growing scarcity in the more accessible regions led to its pursuit and virtual extinction in the uppermost parts of its range. At the time of the discovery of the Pribilof Islands in 1786, sea otters were very abundant there, and as many as five thousand are said to have been taken from St. Paul Island during the first year of its occupancy. They were abundant also on St. George Island. They rapidly declined in numbers, and according to Vaniaminoff had become scarce by 1811 and extinct within the next thirty years. For some time after the commercial extermination of the sea otter on the Pribilofs many of the animals retained a foothold among the Aleutian Islands and in other parts of the

North Pacific, but the incessant persecution to which the species was subjected gradually reduced it to the verge of total extinction. Now the pitiful remnant left is protected for a term of years in the hope that the species, which ranks among the most valuable of all the fur bearers, may gradually repopulate its former haunts.

Some idea of the extent of the trade in the skins and the fearful destruction of the sea otter is shown by the fact that from 1786 to 1797, one hundred and fourteen thousand, one hundred and ninety-five skins were sold; from 1797 to 1821, ninety thousand, nine hundred and forty; from 1821 to 1842, twenty-five thousand, four hundred and sixteen; and from 1842 to 1862, twenty-five thousand, eight hundred and ninety-nine. Until 1910, fleets in British Columbia and Alaska were specially equipped to hunt sea otters. In 1909 the British Columbia fleet caught thirty-five and the Alaska fleet thirty-two, making a total of sixty-seven. In 1914, but one skin was secured in Alaska and it sold for two hundred dollars. Formerly the skins were worth in Europe from two to five hundred dollars each.

Nootka Sound is a large sheet of water containing several islands, and from its north side three narrow arms penetrate the land for distances of eighteen, seven, and fourteen miles respectively. Its entrance is five miles wide between Points Maquinna and Escalante, which lie northwest and southeast from each other. At the entrance the shores are low, and have several off-lying dangers, but inside the sound they become high, rugged, and precipitous. From seaward the appearance of the land near the entrance of the sound offers to the navigator many striking features, which in fine weather renders it almost impossible to

be mistaken. The low land of Point Estevan and Point Maquinna at the entrance, with the breakers off them and Nootka Cone, one thousand, six hundred and nineteen feet high, within the southeast point of Nootka Island are conspicuous features; and if coming from the southwestward, the same is true of Conuma Peak, a remarkable steeple-shaped mountain, four thousand, eight hundred and eighty-nine feet high, twenty miles northeastward of the entrance.

The University of California, through the courtesy of Professor George B. Rigg, has furnished me with much valuable material for use in the writing of this book, among which is an account by H. S. Swarth of a zoological exploration conducted by the University upon Vancouver Island in the summer of 1910. In describing Nootka Sound Mr. Swarth says: "The permanent white population of Friendly Cove is limited to Mr. Smith, the storekeeper. The whole of the peninsula has been set aside as a reservation for the use of the Indians, and the store is held by lease. There is a Catholic Mission here, a neat little church in carefully kept grounds, and a priest is resident during the winter months, but was away at the time of our visit. The Indian village of Friendly Cove has been where it is since before the coming of the white man, and the advantages of the site are so obvious that it had probably been occupied for ages previous to that time. The town is at the southeastern extremity of Nootka Island on a projecting spit, which is some half mile in length, perhaps a quarter of a mile across, from bay to ocean, quite level, barren of timber, and covered with grass. At the extremity of the peninsula a string of rocky islets extends at right angles into the sound, giving the shelter that forms the cove a placid, unruffled bay in

almost any weather. On the sheltered side is a beach a few hundred yards long, extending nearly the length of the town, an ideal landing for canoes, and in sunny weather a delightful place in which to loaf, bathe, and do laundry work, as we observed. This beach, however, is not of hard sand, but of a yielding, coarse gravel, in which one sinks ankle deep at every step, but on this rocky, precipitous coast one is not apt to be critical of such minor details. Above the beach is a short, steep rise of a few yards to the level ground beyond. On the seaward side of the peninsula is another fine stretch of beach, about two miles in length, and of the same general character, though with here and there short stretches affording firm, sandy footing. At the northern end of this beach, where the coast becomes more rocky and broken, is a large lagoon, opening into the sea and flooded by the tides, surrounded by grassy meadows, and with several streams flowing into its upper end. About the outer beach, as elsewhere in the region except for the limited village site, the forest extends nearly to the high tide mark, impassably dense, dark, and forbidding. About half a mile from the village, and only a stone's throw from the beach, is a small, shallow, freshwater lake, several acres in extent. The town itself and its inhabitants, we found quite as interesting as the animal life we were there to study. Probably in many respects the straggling rows of cabins present an appearance not greatly unlike the village first seen by Captain Cook, for even in those days the northwestern coast Indians built rather elaborate wooden domiciles. True, many of the houses are now embellished with glass windows, and a few have more or less elaborate bay windows or even front porches, but these details cannot be seen at any distance, and at

a close view most of the houses are quite satisfyingly old and weatherbeaten in appearance; while some even of the most pretentious, if approached from the rear, are seen to be there of ancient design and workmanship, contrasting strangely with the more modern and garish 'front.' It is doubtful if the village is as large as it was when Cook saw it, for he estimated the population at two thousand, and from the number of houses, it appears to be far below that at the present day. I had no other way of forming an estimate, for during the summer most of the able-bodied inhabitants are absent, fishing or working at the canneries, and the village had a very deserted aspect at the time of our visit. Some distance behind the town, at the edge of the beach, and nearly hidden in the woods, is the Indian burying ground, the graves embellished with the most extraordinary decorations. The ancient custom of these people to bury with the departed, or to adorn his tomb with, his most cherished possessions, leads now-a-days to most incongruous combinations. Above the various graves were to be seen among other things, a phonograph with several broken records, a sewing machine, an iron bedstead, and a carefully constructed miniature full-rigged ship, all very much the worse for the weather they had been through."

In this connection it is most appropriate to make a self-explanatory quotation from Professor Meany's *Vancouver's Discovery of Puget Sound*. He says: "Nootka, wild, romantic Nootka, deserted and neglected by white men for more than a century, though once the most frequented harbor on the Pacific coast of America, what a lure is this Nootka to one who has searched for truths among the rare and scattered records! With a heart filled with enthusiasm the

present writer visited the famous little harbor of Friendly Cove in the summer of 1902. Being secretary, he undertook, on behalf of the Washington University State Historical Society, to erect a monument of granite to mark the place where Vancouver and Quadra met in August of 1792. The cost of the monument was borne for the Society by the pioneer, Orion O. Denny, the first white boy born in Seattle. Canadian law offered an obstacle in the way of customs charges. This condition annoyed the genial and dignified governor, Sir Henri Joly G. de Lotbiniere, who asked the privilege of bearing the charges himself. Thomas Stockham was about to construct a little trading post at Friendly Cove and volunteered to help with his crew of three white men and one Indian to hoist the heavy granite to its place on the summit of a rocky islet in the mouth of the harbor. Here we placed the monument, with its inscription facing the sea, on August 23, 1903."

The western shore of Nootka Sound from Friendly Cove trends in a northerly direction for about six miles to the entrance of Kendrick Arm and Tahsis Canal. It is rocky, and near the south part some islets lie parallel to it for a distance of nearly two miles, at about three cables from the shore. Marvinis Bay, four miles northward of Friendly Cove, on the east side of Nootka Island, is of small extent and open to the southward; it only affords anchorage for coasters, and over a rocky bottom. Our vessel visited the fish canning establishment of the Nootka Packing Company, located at this point, and we found it surrounded by many small islets and rocks, many of which were covered with kelp, one specimen of which measured twenty-seven feet in length. We found the storekeeper

of Friendly Cove in charge of the store on the wharf at this anchorage. He kindly pointed out to me the entrance "up the sound at a place called Tahtheis," where Maquinna had his royal residence, at which a most excellent dinner was served by Señor Quadra and at which he and Vancouver had the company of Maquinna and the Princess. From the storekeeper I purchased for my grandchildren two very fine Indian bows with steel pointed arrows. At this anchorage I also purchased a photograph of an old Indian chief and his half-blood grandson, said to be descendants of Chief Maquinna.

Esparanza Inlet, the entrance to which lies between the northwest side of Nootka Island and the mainland of Vancouver Island, is about sixteen miles long, in a winding northeasterly direction, with an average width of about one mile, narrowing at the head and connected by a narrow pass, Tahsis Narrows, to the Tahsis Canal in Nootka Sound.

Much of this part of Vancouver Island has not been explored, and the exploring of it will be a difficult undertaking. Mr. Swarth says: "The forests of the west coast must be seen to be appreciated. I had seen, as I supposed, densely forested regions in the eastern and central portions of Vancouver Island, and had also heard tales of west coast conditions, but these had not prepared me altogether for the jungles we entered. Everywhere, over hill and valley, is the dense impenetrable forest, Douglas fir and spruce, mostly a tree wherever there is a possible foothold for one, and underneath a matted tangle quite impenetrable except along the water courses. Devil's club and salmonberry bushes reach out long thorny branches in all directions, while everywhere is the bush we heard so abundantly

vilified by woodsmen and hunters – the ubiquitous salal. On the east side of the island the latter occurs mainly as a small, rather innocuous shrub, easily trodden under foot, but it thrives on the west coast, forming thickets higher than a man's head, and as absolute a barrier as a stone wall. Altogether the forests appeared to me to be somewhat more tangled and impassable than the worst I had seen in southeastern Alaska – more uniformly dense and without the welcome relief of the open 'park' country so characteristic of some of the Alaska islands."

Kyuquot Sound, the eastern entrance to which is twelve miles from Esparanza Inlet, is a large sheet of water penetrating from the coast to a distance of fourteen or fifteen miles inland, in two large arms and several smaller ones, and contains several islands. A whaling station is located on this sound. I visited it twice, and in the next chapter I shall give an account of the whaling industry.

Quatsino Sound, the northwesternmost of the deep inlets, on the outer coast of Vancouver Island, penetrates the island in a northeasterly direction for upwards of twenty-five miles. The approach to it, between Point Reef on the east and Entrance Island, eastward of Cape Parkins, on the west side, is nearly six miles wide, narrowing to less than one mile at Bold Bluff, the entrance to the sound five miles within. From the bluff the sound takes an easterly direction, nearly straight for thirteen miles, and branches off in two arms.

The Princess Maquinna arrived at Port Alice in the southeast arm of Quatsino Sound, July 25, 1918. Here we found the Whalon Pulp and Paper Company was constructing buildings on an extensive scale for the

manufacture of pulp and paper. To the accomplishment of this purpose the company had erected the largest single sawmill that I had ever visited. While there I saw them take out of the water a spruce log forty feet long, six feet in diameter at the butt and five and a half feet at the top. Every foot of this log was utilized, the best boards of it were to be used for aeroplane lumber, and the rest of it was cut into lengths for various other purposes. I witnessed the inspection of the aeroplane boards; it was simple but seemed to be effective. The port was full of logs, and I was told that most of them consisted of silver and Sitka spruce. It was a very interesting and instructive day that I spent at this port.

The coast of Vancouver Island from Quatsino Sound to Cape Scott, the northwest extreme of the island, takes a general northwesterly direction; it is mostly rocky and iron bound, indented by several bays, most of which are small, and from most of the projecting points rocks extend, in some places nearly one mile from the shore. From Cape Russell to Cape Scott, the coast, from five hundred to six hundred feet high, trends in a northwesterly direction and is indented by three open bays, which are each nearly one mile in length but afford no shelter whatever. This completes the description of the west coast of Vancouver Island and its dangers.

Whales and Whale Fisheries of the Northwest Pacific

April 7, 1792, Vancouver arrived in latitude $35^{\circ} 25'$, longitude $217^{\circ} 24'$, where he found himself in the midst of immense numbers of sea blubber of the species *medusa villilia*. In the afternoon his ship passed within a few yards of about twenty whales of the anvil-headed or spermaceti species. His conclusion was that these whales were induced to resort hither to feed upon the immense number of the *medusa*. On Monday, June 25, he had reached a point in the Strait of Georgia beyond the present site of the city of Vancouver. In his record of that day he says: "In the course of the forenoon a great number of whales were playing about in every direction; and though we had been frequently visited by these animals in this inland navigation, there seemed more about us now, than the whole of those we had before seen, if collected together." He also says, that in sailing from Desolation Sound to Menzies Bay, in Discovery Passage, "Numberless whales enjoying the season were playing about the ship in every direction." These quotations and many other that might be made show the great abundance of whales that were to be found in the North Pacific Ocean a century and a quarter ago and how tame they were at that time.

The first of these animals that I have had the privilege of seeing was a dead one that was brought from the Atlantic coast to Indianapolis, many years ago, on two open flat cars for exhibition. The next one was seen

on July 11, 1911, sporting in the Strait of Georgia between Vancouver and Active Pass. After that in making voyages to and from Alaska I saw many of them, singly or in pairs, but I have never seen a school of them. I saw a beluga or white whale, near Kodiak, October 1, 1914. On my return trip of that voyage I formed the acquaintance of Alfred Hauger, an intelligent man who had long been engaged in whale fishing, and from him I gained much information about whales and whale fishing. The following are the whales which he said are found on the northwest coast: right whale, bowhead whale, humpback whale, sulphur bottom whale, fin whale, California gray whale, sperm whale, bottlenose whale, white whale, and killer whale.

The mammalia is the highest order of the animal kingdom. Strange as it may seem, a whale belongs to this order, and not to that of the fishes, which in form and habitat it so much resembles. It is a hot, red-blooded creature, breathing by means of lungs, which lie in the interior of the body in a definite chest cavity, shut off from the rest of the cavity of the body by a large muscular partition or diaphragm. Frequently it has vestiges of the hairs which cover the bodies of other mammals or the presence of a few scattered hairs in the neighborhood of the mouth. It brings forth its young alive and suckles them with milk. At Kyuquot Whaling Station I saw the foetus of one that was six feet long that had been taken from a slaughtered mother whale. The bones of the skull are like those of other mammals and only differ slightly in their relative arrangement.

Whales are the giants of creation; they are not only the largest of the living animals, but of all animals that have existed, except perhaps the one hundred and thirty

foot dinosaur, and in many respects are the most interesting and wonderful of all creatures. They are all fish-like in form, with tapering body, one pair of paddles, no apparent vestige of hind limbs, no external ear, tiny eyes, and black, piebald, or white coloration. They are divided into two families, namely, *mystacoceti* or toothless whalebone whales, and *odontoceti* or toothed whales. All of the members of the first family are called whales, but of the second only certain of the larger ones are so termed, the smaller species being popularly spoken of as bottlenoses, dolphins, and porpoises.

The early days of whaling was "shore whaling" by means of small boats, and the whales attacked and captured were those which approached close enough to the shores to be seen from the land. This whaling was carried on by means of harpoons and lances. The first whaling vessels were small sloops fitted for cruises of a few week's duration, and, after capturing one whale, they returned to port. From the small sloops of those early days the vessels were increased in size until large barks, ships, and brigs were in almost universal use. The tools, weapons, and implements of those early days were well adapted to the capture and cutting up of whales, and the later whalers found it difficult to improve upon them. The most marked improvement made was the harpoon-gun invented by Svend Foyn in 1867. This gun is heavily constructed throughout and has a bore of three inches and is placed in the extreme bow of the whaling vessel. The harpoon is a very heavy missile, weighing several hundred pounds. A bomb containing roughly a pound of powder is screwed on to the harpoon, and the latter then rammed home. Coiled upon the iron plate under the gun muz-

zle is the "foregoer," made of the best Italian steam-tarred hemp, four and a half inches in circumference, one end of which is attached to the harpoon about eighteen inches from the point. Attached to the other end of the "foregoer" is one of the main whale lines from the winch, this line being of Russian steam-tarred hemp, about four hundred fathoms in length and five and a half inches in circumference. Thus equipped a vessel is ready for action.

Near the top of the masthead is located the lookout barrel, from which point of vantage the lookout can cover a much larger area than a man on deck would be able to do. As soon as a whale is sighted, the vessel is run as close to it as possible, and when within range the gun is fired. A time fuse is attached to the bomb on the harpoon, this being ignited by the discharge of the gun, and five seconds after the discharge the bomb explodes. On the shaft of the harpoon are barbs, which expand on entering the body of the whale, making it next to impossible for the harpoon to be drawn out. As soon as struck, the whale sounds and goes to the bottom. These animals have enormous strength and will at times tow the vessel several miles before beginning to weaken. As soon as the line slackens, it is snubbed around a heavy steam winch on the deck just ahead of the bridge, after which the wounded whale is played in much the same manner that a fish is played by an expert angler, a continual strain being kept on him, slackening sometimes to avoid a wild rush, but always reeling in slack at every opportunity. The strain soon begins to tell on the whale, his rushes growing shorter and less vicious, and finally he rises to the surface, lashing the water white in his struggles. Should he blow blood when he reaches the surface,

the whalers know he is mortally wounded, and wait until he dies, but if he blows clear and is quiet, the "pram," a peculiar spoon-shaped boat adapted from a Norwegian model, is lowered and rowed along side and a long lance is driven into him until he blows blood, which shows an internal hemorrhage, from the effects of which he soon expires, falling over on his back in his last struggle, and then sinking to the bottom. The line is now rapidly hove in until a heavy strain shows the slack is in and the weight of the whale is showing, when the line is run through a heavy iron block at the foremost head, this mast being heavily rigged in order to stand the tremendous strain. Fathom by fathom the line comes in until at last the dead body is alongside. A chain is attached around the tail, and the winch then heaves the tail out of water, causing the animal to hang vertically head down from the bow. The vessel is then forced ahead at full speed to bring the body to the surface. The lobes of the tail are then severed and brought on board. In order to make the carcass more buoyant, air is blown into the abdominal cavity by means of an air pump.

If the whaler is not ready to return to the station immediately, a buoy with the ship's flag attached, is secured to the whale, and both allowed to go adrift while the vessel continues its hunt, sometimes as many as three whales being brought in at one time, all with their tails out of the water, and hoisted to the bow. Upon arrival at the station the whales are attached to a buoy in front of the ship, from which a line is taken and the animal hauled into the mouth of the slip between two cribs filled with rocks, which act as guides to keep it centered at the same time to ballast the nose of the slip under water at all stages of the tide. A

large one and one-half inch diameter iron chain is then attached to the tail of the whale and it is hauled out of the water under the "flensing" shed by a powerful steam winch. As soon as the whale is in place, men with long-handled knives commence "flensing," that is, removing the blubber. This is a layer of fat directly under the skin, covering the whole body like a huge blanket and varying in thickness from four to seven inches. The men walk from the head toward the tail, cutting long gashes in the blubber as they go, then a steel hook attached to a wire cable is hooked in at the end of a strip, the steam winch heaves in on the wire, and the long strips are peeled off one after another.

As fast as removed the strips of blubber are put into the slicer, or blubber cutter, and chopped into half-inch slices, which are dropped into an endless bucket elevator to be hoisted to the blubber pots, where the oil is tried out by means of steam pipes running through pots. After the blubber is exhausted in these pots, it is conveyed in a chute to a drainage tank, where the bulk of the water is separated by gravity, and then to the dryer, where, mixed with the residue of the meat, it is turned into guano. After the blubber is removed from the carcass, the inside fat is taken out by chopping through the ribs; then the carcass is hauled up to the carcass platform, which is at right angles to and a few feet higher than the main slip. Here another gang of men remove the meat from the skeleton. This meat, which very much resembles beef both in appearance and flavor and is frequently eaten at the station, is put into pots arranged on both sides of the platform, where it is boiled and the oil extracted from it by acid processes. After the oil has been dipped from these meat pots, a sluice is opened and the residue is allowed to

drop into the chute, where it is run into the drainage tank before mentioned, thence going into the hot-air dryer with the blubber residue. Here it is made into guano by a drying process which dries the material thoroughly and then shreds it fine, after which it is ready for the market, its value as a fertilizer being very high. The blubber oil is ready for barreling as soon as it is cold, but the meat oil has to be clarified first, to remove the little particles of meat remaining in the liquid. The latter is the darker of the two oils, both before and after clarifying.

Heretofore, the parts of the whale utilized and the products prepared at a whaling station were as follows: Tails and tongues, sliced into thin strips, salted and shipped to Japan, where they are eaten; oil, guano, bone meal and the baleen or whalebone of commerce. A glue was also made from the residue of the blubber after boiling, which was used for coating the insides of the barrels to hold the oil. In addition, experiments were made with the preparation of a meat extract from the flesh, and with the preparation of leather from the skin and stomach wall. An important addition to these uses, is the preparation and utilization of the flesh of whales as a food for the human family. In this connection, I find that it has been estimated that a fifty ton whale represents a food value in bulk of a herd of one hundred steers of one-half ton weight, five hundred sheep of two hundred pounds each, or three hundred hogs of three hundred and fifty pounds each.

Seven whaling stations have been established along the Pacific coast, and fully equipped for the preparation and handling of whale products. Each of these has its whaling fleet, which scours the ocean for a supply for the plant. These plants disposed of about one

thousand whales during the season of 1918. As I have said, it was my privilege to visit the Kyuquot Station in that year. My visit was at a fortunate time. The flensed carcass of a monster female whale was on the floor of the plant, and six others were anchored in the bay. These consisted of two sperm whales, one fin-back, one bowhead, one sulphur bottom, and one hump-back. They had just been brought in from a distance of sixty miles, thus showing how scarce whales are getting to be on the Pacific coast. When our vessel came into the bay and stirred the water it was red with the blood of the slaughtered whales. I was able to examine the various processes of handling and converting whales into their various products. I was especially interested in the process of preparing and canning the flesh for human food and could see no reason why it would not be perfectly edible. In every detail it was done in a most cleanly manner. Certainly the flesh of a whale is grown or made from the cleanest of food and is free from diseased conditions. Other nations use and relish the flesh of the whale as food. Why should not Americans do so? By doing so the question of a meat supply will be much simplified.

The orca or killer whales grow to a length of twenty to thirty feet. They are powerful, rapacious animals, and are the only whales that feed upon their own kind and upon large prey. Their upper and lower jaws are armed with sharp, saw-like teeth. They are the tiger-hearted gladiators of the sea. The killer whale never hunts alone. It pursues its titanic quarry in couples and trios, and sometimes in veritable wolf-like packs of a half dozen. I witnessed one of these attacks in Queen Charlotte Sound. They have been known to assault the largest whales of the sea. Burns tells of an

attack of this nature upon a large bowhead whale, and Scammon of one upon a Californian gray whale. Scammon says: "They made alternate assaults upon the old whale and her offspring, finally killing the latter, which sunk to the bottom, where the water was five fathoms deep. During the struggle the mother became nearly exhausted, having received several deep wounds about the throat and limbs. As soon as their prize had settled to the bottom, the three orcas descended, bringing up large pieces of flesh in their mouths, which they devoured after coming to the surface."

The common porpoise is a gregarious whale found in both the Atlantic and Pacific. It reaches a length of five to six feet and is generally blackish, but white on the belly. Like the stormy petrel they have the reputation of presaging foul weather, when they sport and chase one another about vessels, an instance of which I witnessed in Lynn Canal.

Burke Channel, Dean Channel, and Bentinck Arm

On May 18, the Chatham under Lieutenant Puget and, on May 23, the Discovery under Vancouver in person sailed northward from Nootka Sound to resume the exploration work at the point where it had been left off the previous year. The ships found a convenient anchorage in Observatory Inlet on Restoration Cove, and, during the next three weeks, boat parties explored many inlets including Burke Channel, Dean Channel, and Bentinck Arm, the first of these being named by Vancouver after Edmund Burke, the celebrated English writer and statesman.

On a branch of Bentinck Arm an exploring party under Johnstone observed a native house of very singular construction. As they advanced towards it some smoke was observed, and three Indians approached them with much caution and showed great disapprobation at their landing; but on receiving some nails and trinkets, they became reconciled and attended Mr. Johnstone with some of his party to their habitations, which were found to be of different construction from any before seen. They were erected on a platform raised and supported nearly thirty feet from the ground by perpendicular spars of very large size. The building occupied a space of about fifteen by thirty-five yards and was covered by a roof lying nearly horizontal, and parallel to the platform. It seemed to be divided into three different houses, or rather apart-

ments, each having a separate access formed by a long tree on an inclined position from the ground to the platform with notches out and in by way of steps, about a foot and a half apart. Up one of these ladders only Mr. Johnstone and one of his party were allowed to ascend. By removing a broad board placed as a kind of door on the platform where the ladder rested, they entered on a small arm before the door of the house or apartment to which the ladder belonged. Here they found four of the natives posted, each bearing a rude dagger-like weapon made of iron. They only permitted Mr. Johnstone to look about him and seemed much averse to his entering the house, which he prudently did not insist upon.

At the mouth of the near by creek were a great number of wicker fish pots, which induced Mr. Johnstone's party to ask for something to eat, but instead of fish, the natives brought them a kind of paste or bread, supposed to be made from the inner bark of a pine tree. Their language was quite new to the party, and they appeared to be wholly unacquainted with that spoken at Nootka.

On their way back to the ships Johnstone's party saw several bears. Two young cubs were killed and proved to be excellent eating.

In a former chapter an account was given of Alexander Mackenzie and his discovery of the Fraser River. After he had voyaged some distance down that river he turned his face to the west in the hope and expectation of reaching the Pacific Ocean. The final voyage was made down the Bella Coola River, and, at eight o'clock in the morning of July 20, 1793, that being two months and five days after Vancouver's men

had been there, he found himself afloat on the tide waters of the ocean at the head of North Bentinck Arm.

Concerning this voyage Bancroft in his *History of the Northwest Coast* says: "It was not a pleasing sight that greeted them after their devoted toil. Spread out before these northern fur-traders, who had ventured so far to see what this great northwest was made of, was a broad uncovered beach, dripping with sea-weeds. A thick fog shut out the surrounding hills. Sea and sky were murky and opaque. A strong west wind chilled both blood and spirits. There were many seals, so quick of movement as almost to dodge the bullets sent after them. Only some small porpoises seemed willing to be shot. In the distance was the white-headed eagle, which had come with them from the interior to see the ocean, and nearer gulls and ducks, both diminutive, and some dismal dark birds of evil omen, smaller than the small gulls. To crown all, as the day wore away the wind rose and the sea grew boisterous, so that after a voyage of ten miles from the entrance of the river they were obliged to land their leaky canoe in a small bay, opposite another small bay in which was an island, and carry ashore their scanty stock of provisions, consisting now of twenty pounds of pemmican, fifteen pounds of rice and six pounds of flour, for ten half-starved men upon a savage shore, with a thousand miles of wilderness between them and security."

Next morning, Mackenzie sailed southwesterly and came to Vancouver's Point Menzies, and coasted the land called by that navigator King Island. He met many boat-loads of natives who had had intercourse with Vancouver and manifested neither fear nor curiosity at their appearance. Entering Vancouver's Cas-

cade Canal, they were greatly annoyed by the Indians, who assumed an arrogant tone and threatened an attack. One man made himself especially obnoxious, having been beaten and shot at, as he said, by Vancouver. The westernmost point of this memorable journey was here attained. Landing at a place which from a distance looked like sheds, but on nearer approach proved to be the ruins of a village, Mackenzie, the better to defend himself from the natives, whose numbers and boldness were constantly increasing, took his position on a rock, which was none too large to accommodate his little force. The day passed, however, without an attack, and there they spent the night of the 21st, keeping a careful watch in turn, two at a time. The next day the sky was clearer, and Mackenzie obtained more satisfactory observations. Mixing some vermilion in melted grease, he marked in large letters on the southeast side of the rock on which they had slept the previous night, these words: "Alexander Mackenzie, from Canada, by land the twenty-second of July, 1793."

Burke Channel, as now known, is a long inlet on the east side of Fitzhugh Sound, three miles northward of Namu Harbor. It leads to Bella Coola anchorage, at the head of North Bentinck Arm, a distance of fifty-five miles in a general northeasterly direction, from its junction with Fitzhugh Sound. It lies between high, precipitous rocky mountains, the sides of which are covered with stunted pine trees, and mostly snow-capped, becoming more lofty as the head of the inlet is approached. This channel and arm, though not surveyed in detail, have been frequently traversed both by day and night. I voyaged through them July 13, 1918.

North Bentinck Arm is eight miles long, and just

within the entrance, on the north shore, is a small bay affording anchorage for small craft. The head terminates in a sand and mud flat, fronting low swampy ground, covered with grass, which is submerged at high water. Here the inlet is one and three-tenths miles wide. Bella Kula, formerly known as Bella Coola, at the head of North Bentinck Arm, affords an indifferent anchorage close to the sand flat at the mouth of the Bella Kula River, off the wharf on the south side. Small vessels may find shelter, during summer, on the north shore in the cove northward of Custom House Point. Bella Kula River is a stream of considerable size and velocity, the deposit from which has formed a steep bank at the head of the inlet. The water is quite fresh alongside, and if pumped in at low water is fit for drinking. There is a Norwegian settlement on the southern shore of the bay. A long narrow wharf with a depth of sixteen feet or more at its outer end, with several buildings on it, extends from the shore near the settlement. A government wharf is situated on the north side of the entrance to the river. This is the anchorage reached by Mackenzie in 1792, an account of which has already been given. The rock upon which he made the inscription, noting his arrival at this point, has been defaced, the inscription having been obliterated by time. In its place has been cut into the face of the rock the following inscription: "See Appleford 10, Imperial Block, Interior, Vancouver and S." I was told that the man who defaced this historical rock, was a real estate agent, who lived at Victoria and operated in that city and Vancouver.

On May 30, Vancouver set out in the yawl, accompanied by Lieutenant Swaine in the cutter, to examine the main arm of Burke Channel. They had not gone

far until they landed on some rocks near the western shore, where they were visited by a few of the natives, who appeared to be of a different race from those they had seen to the southward and used a different language to that spoken by the inhabitants of Nootka. Their stature was much more robust than that of the Indians further south. The prominence of their countenances and the regularity of their features resembled those of the northern Europeans; their faces were generally broad, with high cheek bones. Had it not been for the filth, oil, and paint with which from their earliest infancy they had been besmeared from head to foot, there was reason to believe that their color would have differed but little from that of laboring Europeans who were constantly exposed to the alterations of the weather.

On his way back to the ships Vancouver explored Dean Channel. I voyaged through this channel on July 14, 1918. On our way through it, we passed logging camps operated by the Ocean Falls Pulp and Paper Company. The surroundings were impressive; the mountains resembled stone walls covered with ivy. The grotesque marking of the snow on the mountain sides looked like hieroglyphics. At Kinsquit, the place to which Mackenzie came from Bella Coola, are located two canneries and an Indian settlement. Here also is the mouth of Dean River, from the mouth of which is seen on the eastern side a sand bank. Two miles above here the inlet is contracted to about one mile in width by two spits. The bay at the head of the inlet is circular in form. When I was there a railroad, extending into it, had been constructed into the forest. I was informed that logging camp No. 17, which had just been organized, consisted of one hundred and seventy-five men, engaged in logging for the Ocean

Falls Pulp and Paper Company. When it is remembered that there were about twenty such camps thus engaged, one gets an idea of the fearful destruction of timber which is now taking place along the various inlets in this section of the country.

To one arm of Dean Channel, Vancouver gave the name of Cascade Channel. It is now known as Cascade Inlet. The width of this channel did not anywhere exceed three-quarters of a mile; its shores were bounded by precipices much more perpendicular than any they had yet seen during this excursion; and from the summits of the mountains that overlooked it, particularly on its northeastern shore, there fell several large cascades. These were exceedingly grand, and much the largest and most tremendous of any the explorers had ever beheld. The impetuosity with which the waters descended produced a strong current of air that reached nearly to the opposite side of the channel, though it was perfectly calm in every other direction.

Near the south point of Cascade Channel they met friendly Indians, who invited them to visit their habitations, and the invitation was accepted. They found the village to consist of seven houses situated in a small rocky cove close round the point. On approaching the dwellings the Indians desired that they would not land there, but on the opposite side of the cove. This Vancouver's party did and by so doing secured their confidence. They were visited by about forty of the male inhabitants, but the women and children remained in their houses. The construction of these were very curious. The back parts of them appeared to be supported by the projection of a very high, and nearly perpendicular rocky cliff and the front and sides by slender poles, about sixteen or eighteen feet high. Van-

couver desired to become better acquainted with these curious mansions, but the repugnance shown by their owners to his entering them, induced him not to make the attempt lest it might give them serious offense and disturb the harmony that existed. Not one of them had a weapon of any kind, and they all conducted themselves in the most civil and orderly manner.

In Hakai Passage the explorers passed close to a rock on which another native village was situated. The rock appeared to be about half a mile in circuit and was entirely occupied by the habitations of the natives. These appeared to be well constructed; the boards forming the sides of the houses were well fitted, and the roofs rose from each side with sufficient inclination to throw off the rain. The gable ends were decorated with curious paintings, and near one or two of the most conspicuous mansions were carved figures in large logs of timber (evidently totems) representing a gigantic human form, with strange and uncommonly distorted features. The Indians made objections to Vancouver and his party landing. Their number amounted at least to three hundred. After being gratified with some presents, they returned to their rock, and the party continued their route homeward.

About noon of June 8, in a bay opposite an opening on the western shore that had the appearance of communicating with the ocean, the explorers fell in with about forty native men, women, and children. The natives received them with caution and desired that they land at a rock a little distant from their party. On complying, they were visited by most of the women and boys, who, after receiving some presents, gave them to understand that the women would have no objection to their company, but Vancouver declined their solici-

tations. The whole of this party were employed in gathering cockles and in preparing a sort of paste from the inner bark of a particular kind of pine tree, intended as a substitute for bread. This they washed in sea water, beat it very hard on the rocks, and then made it up into balls. It had a sweetish taste, was very tender, and by them seemed to be considered good food. About ten o'clock at night, the explorers arrived on ship board and found all well. During Vancouver's absence some excellent spruce beer had been brewed from the trees found in that locality, and a sufficient supply of fish for the use of all for every day had been procured.

From Restoration Cove to Salmon Cove

On Monday morning June 10, the weather in Restoration Cove was rainy and unpleasant without the least prospect of any alteration. Vancouver directed that the observatory with everything else should be taken from the shore; in the afternoon they weighed anchor and towed out of the cove. By noon next day, they arrived in Hakai Passage, and, at three o'clock, anchored within a cable's length of the western shore about a league to the southward of the Indian village on the detached rock. Several of the natives came off, and brought in their canoes sea otter and other skins to exchange for iron and copper. All their dealings were carried on with confidence and in the strictest honesty. In this situation they remained until eight in the morning of June 12, when they proceeded but so slowly that the village on the rock bore west of them at a distance of about a half mile, and the rendezvous appointed with Mr. Johnstone, who had been sent to explore Portlock Channel nearly in the same direction about a league further. This they reached by six in the evening and anchored in twenty fathoms of water, steadying the ship by a hawser to a tree on an island.

Amongst the skins brought thither by the Indians was that of an animal whence the wool was procured with which the woolen garments worn by the inhabitants of northwest America were made. These appeared evidently too large to belong to any animal of the canine race, as they had before supposed. They were, exclusive

of the head and tail, fifty inches long and thirty-six inches broad exclusive of the legs. The wool seemed to bear but a small proportion to the size of the skin. It was principally produced on the back and towards the shoulder, where a kind of crest was formed by long bristly hairs, that protruded themselves through the wool, and the same sort of hair formed an outer covering to the whole animal, and entirely hid the wool which was short, and of a very fine quality. All the skins of this description that were brought to them were entirely white, or rather of a cream color; the pelt was thick, and appeared of a strong texture, but the skins were too much mutilated to determine the kind of animal to which they belonged. This evidently was the mountain goat.

In the afternoon they had the honor of a female party on board. Those of the women who appeared to be of the most consequence had adopted a very singular mode of adorning their persons. A horizontal incision was made about three-tenths of an inch below the upper part of the under lip, extending from one corner of the mouth to the other entirely through the flesh; this orifice was then by degrees stretched sufficiently to admit an ornament of wood, which was confined close to the gums of the lower jaws and whose external surface projected horizontally. These wooden ornaments were oval and resembled a small oval platter dish made concave on both sides; they were of various sizes but the smallest Vancouver was able to procure was about two inches and a half; the largest was three inches and four-tenths in length and an inch and a half broad; the others decreased in breadth in proportion to their length. They were about four-tenths of an inch in thickness and had a groove along the middle of the outside edge for the purpose of

receiving the divided lip. These hideous appendages were made of fir and neatly polished, but presented a most unnatural appearance, and were an instance of human absurdity that would scarcely be credited without ocular proof. Labret, though not given by Vancouver, is the name of this lip ornament.

Vancouver at first considered the inhabitants of this region to be a much finer race of men than those further south; the difference, however, appeared less conspicuous, when they were seen in greater numbers. Their dispositions, as far as Vancouver's short acquaintance with them would authorize an opinion, appeared to be civil, good-humored, and friendly. The vivacity of their countenances indicated a lively genius and from their repeated bursts of laughter it appeared that they were great humorists, for their mirth was not confined to their own party or wholly resulting from thence, but was frequently at the expense of Vancouver's party. The chief generally approached with a ceremony of first rowing around the vessels and departed in the same manner, singing a song that was by no means unpleasant.

On McLoughlin Bay on the west side of Lama Passage is the site of an old Hudson's Bay trading post. The Bella Bella Indians migrated here from Bella Bella Islands in 1868. This village is called New Bella Bella, in contra-distinction of the former home of these Indians. Captain Nord of the steamship Jefferson in a letter to me says: "I understand the reason for moving the town from the old town site was due to the fact that the Hudson's Bay Company had established a store at old Bella Bella and the Indians considered the prices charged by the Company for supplies to be exorbitant and the natives moved to the westward and

there established a new town." In a letter from Captain L. F. Lock of the steamship *Princess Alice*, he says: "I am well acquainted with the fact that at one time they were located at McLoughlin Bay, just outside of the Reserve. One John Clayton opened a store at that place, bought all the townsite from the government, and tried to compel the Indians to pay rent or buy the lots they were living on. This they would not do, so they left the old town and moved about three miles further away and on the Reservation, where they still remain."

The Hudson's Bay Company's post at old Bella Bella was established by John McLoughlin in 1833, and named Fort McLoughlin. It was abandoned in the autumn of 1839, as we have already seen, and was removed to Fort Rupert. Concerning its abandonment, Bancroft says: "The Hudson's Bay Company found these tribes surrounding these northern posts to be more dangerous than any other encountered by them throughout the Northwest coast. In the first place the northern nations were by nature fierce and independent, and secondly their warlike mood had by no means been quieted by intercourse with the Europeans. Brute force had been the policy of the Russians, many of whom were scarcely more Christian or humane than the savages, and the intoxicating draught now freely offered alike by English, American, and Russian traders frequently maddened them, and made them too often turn the white man's firelock against himself. And white men can be as insanely savage upon an emergency as red men. The cruelties of civilization may be a little more direct, may be somewhat less simple, more refined, but they are none the less devilish. The follies of civilization are absolutely unmatched by

savagism, the reason, being chiefly that the former has more inventions for originating and propagating evil than the latter." The old fort was a square enclosed in pickets eighteen feet long and two feet in circumference, mortised into a square log sunk into the earth, and was one hundred and twenty feet on each side. Inside the pickets ran a gallery, and in each of the bastions were mounted four nine-pounders, with small arms and ammunition. The usual buildings were erected within. In 1868, the Company returned to the fort, and with the changed conditions found life profitable and worth living.

John McLoughlin was a physician who entered the service of the North West Company early in the nineteenth century and, after having spent some years at various eastern posts, was appointed in 1823 to take charge of its Columbia District. At an early day in his career, a natural aptitude for business was manifested which gradually threw into the shade his professional pretensions. He was of a different order of humanity from any who preceded him. Once seen he was never forgotten. Before or after him, his like was unknown; for he was far above the mercenary fur trader or the coarse illiterate immigrant. As he appeared among his pygmy associates, white or red, there was an almost unearthly grandeur in his presence. His body, mind, and heart were all carved in gigantic proportions. His tall, powerful figure with flowing white hair over his shoulders, after the fashion of the day, made the name White Eagle, which the natives gave him, singularly appropriate. He was a strict disciplinarian, whose authority was absolute. His influence over the savage mind was remarkable. His success in this regard was due to a just appreciation of

Indian character. When McLoughlin first arrived at Astoria, it was in the capacity of chief-trader, but, when he was fairly in charge, the title of chief-factor soon followed. It was not long until the position of governor of all the Hudson's Bay Company's affairs west of the Rocky Mountains was accorded him, with power and importance constantly increasing until finally his dealings direct with London overshadowed his accountability to the magnets of the eastern American slope. He retired from the service of the Company in the spring of 1846, and died at Oregon City in 1857.

The Bella Bellas in their new home, through the efforts of the missionaries, have become an orderly, industrious, thrifty, self-supporting, and christianized people. Near their town along the shore is their graveyard with wooden tombs, painted with totemic designs, and flags and streamers flying from tall poles. Across Lama Passage from Bella Bella on the continent is an old Indian burial place, a wild and romantic spot, close on the edge of the water. Great boulders of fantastic shapes stand all about, draped with loose thick moss so highly colored and mixed with various tints of green as to challenge an artist's cunning to produce their harmonious combination. The trees are tall and sombre and stand as nature planted them where others of their kind have stood and fallen and decayed in the ages gone before.

Before the missionaries came, the Indians burned their dead and then buried the ashes. The mode of deposit of these remains differed even among members of the same tribes. Sometimes they were buried in the ground, sometimes in trees, boxes, or canoes. More were laid on the ground than in it, for the Indians

seem to have had a decided objection to interment. When buried on the ground, they were generally placed among the bushes on some island, and the tops of the boxes were always covered with stones. It was very common for a man's property to be buried with him or suspended from his grave. In the case of great men the latter course was chosen, generally for the purpose of showing their wealth. In the case of a chief, it was always customary to paint or carve his crest on the box in which his bones lay, or affix it on a large sign board upon a pole or neighboring tree. Mr. Duncan, the missionary, says that if the crest of the deceased happened to be an eagle or a raven, it was usual among the northern Indians to carve it in the act of flying, the bird being affixed to the edge of the box with its wings spread so that it appeared to a passerby just about to leave the coffin. This was emblematical of the departure of the deceased to the "Happy Hunting Ground." Usually they did not allow strangers to witness the burial of their dead. It was not uncommon for the Indians to desert the lodge forever where one in their family died. The rites of mourning were carried out strictly but not until the corpse was buried. After this at sunrise and sunset, the women wailed and sang dirges for the space of some thirty days. The deceased poor and despised of the tribe or those who practiced witchcraft were thrown into the sea to be food for fishes or left on the land to be devoured by the wild beasts and birds. They were not considered worthy to be burned. The dead bodies of the Shaman sorcerers, or medicine men, who were really the controlling spirits of the tribes, were placed in box-like tombs and elevated ten or fifteen feet above the ground upon posts.

During June 10-17, a boat party under Mr. Johnstone explored Portlock Channel. They saw a number of natives but found all of them friendly. One morning, they stopped in a small cove for breakfast. Finding some mussels, some of the men roasted and ate a number, as had been a usual practice when any of these bivalves were discovered. Soon after they quitted the cove, several of the men who had eaten the mussels were seized with a numbness about their faces and extremities; their whole bodies were shortly affected in the same manner, attended with sickness and giddiness. Mr. Barrie, who commanded one of the boats, had, when in England, experienced a similar disaster from the same cause and was himself indisposed on the present occasion. Recollecting that he had received great relief by violent perspiration, he took an oar and earnestly advised those who were unwell, viz, John Carter, John McAlpin, and John Thomas, to use their utmost exertion in order to throw themselves into a profuse perspiration; this Mr. Barrie affected in himself and found considerable relief, but when the party landed for dinner, and their exertions at the oars ceased, the three seamen were obliged to be carried on shore. Mr. Johnstone ordered warm water to be immediately gotten ready in the hope that by copiously drinking the same, the offending matter might be removed. Carter, however, was unable to swallow the water and he expired about a half an hour after he was landed. His death was so tranquil that it was no doubt that it was occasioned by a poison contained in the mussels he had eaten. When he was first taken ill, his pulse was regular but it gradually grew fainter and weaker until he expired, when his lips turned black,

and his hands, face, and neck were much swollen. Such was the foolish obstinacy of the others who were affected, that it was not until this poor unfortunate fellow resigned his life, that they could be prevailed upon to drink the hot water; his fate, however, induced them to follow the advice of their officer, and the desired effect being produced they all obtained relief. This very unexpected and unfortunate circumstance detained the boats about three hours; when, having taken the corpse on board and refreshed the three sick men with some warm tea and having covered them up warm in the boat, they continued their route down Sheep Passage, the southwest channel, until they stopped in a bay for the night, where they buried the dead body. To this Vancouver gave the name of Carter's Bay, after the unfortunate fellow; it was located in latitude $52^{\circ} 48'$ longitude $231^{\circ} 42'$. To distinguish the fatal spot where the mussels were eaten he called the place Poison Cove and the branch leading to it Mussel Channel.

North Passage, between Jane and Sarah islands, is five cables wide, with no bottom at thirty-eight fathoms in the fairway. It is the southern entrance to Tolmie Channel, which trends northward between Sarah and Swindle islands for a distance of fifteen miles, and is less than a mile wide in places, but is deep throughout. This channel like a deep noble river flows between mountains which are densely timbered to their tops from the rock line at the water's edge. The trees are green and vigorous, except where broad surfaces of black rock, perpendicular for fifty to one hundred feet, are draped with many tinted mosses and small shapely evergreens, which find rootage in their hidden fissures, from which they bend over the dizzy steep below. The

masters of the Canadian Pacific Railway Company's steamers recommend the use of Tolmie Channel in preference to Hie Kish Narrows.

Hie Kish Narrows is the continuation northward of Finlayson Channel, and from thence by inshore channels to Chatham Sound and Prince Rupert. These Narrows are avoided by taking Tolmie Channel westward of Sarah Island. They are about five and a half miles long and from two and a half cables to one mile wide with depths of water of thirty-one to seventy-three fathoms in mid-channel, over a bottom of mud and shells. A rock, on which the steamship Ohio struck in 1901, is on the western side of the south entrance to these Narrows, at about three cables off-shore, nearly abreast Point Steep, the eastern side of the entrance.

Graham Reach, the continuation of the inshore passage, northward of the junction of Tolmie Channel with Hie Kish Narrows, is about seventeen miles long in a northwest direction, and from a half to one mile wide, with depths of water of thirty-eight to one hundred and fifty fathoms. This may well be called the way of a thousand waterfalls. Here on all sides may be seen streams of crystalline waters tumbling over the wooded cliffs in every conceivable combination of cascades — sheer waterfalls and floating sprays. On either side are mountains several thousand feet in height, which no white man has ever visited and as yet are unnamed. Great alcoves on the heights tell of hidden lakes. Green Inlet is situated on the eastern shore northward of Sarah Island in latitude $52^{\circ} 55'$. This unexplored arm takes an easterly direction at its entrance point. Flat Point lies on the west shore, three miles northward of Green Inlet. This point is wooded, flat,

and comparatively low. Swanson Bay lies on the eastern shore, seven miles from Sarah Island. There is a conspicuous and wonderfully beautiful waterfall on the shore of the channel abreast of this bay. A wharf one hundred and eighty-five yards long, with a cross head, and a depth of twenty-seven feet at low water alongside its extremity, lies in the northeast corner of the bay. A large sawmill and pulp mill have been established here, and a most beautiful settlement is conspicuous from Graham Reach.

On June 13, the ships quitted the station they had occupied since the 11th and moved to an anchorage that seems to have been on Klekane Inlet. The route followed from Milbank Sound was first through Finlayson Channel, which is the continuation northward to Chatham Sound and Prince Rupert Harbor for vessels having come by the inshore passage as far northward as Seaforth Channel, and from thence to Milbank Sound. Its entrance lies between Point Jorkins and the northwest part of Dowager Island, north end of Milbank Sound. This channel extends in a northerly direction for about twenty-two miles to Carter Bay; northward of Carter Bay it is continued under the name of Hie Kish Narrows eastward of the northeastern part of Sarah Island. This island is about fifteen miles long and extends parallel to the channel, with a width of one to two and a half miles. It reaches its greatest elevation of two thousand feet at four miles from the south extreme. The land on both sides of Finlayson Channel is from one thousand five hundred to two thousand six hundred feet high, the peaks closely approaching the shores and rising in a precipitous manner from the water's edge. Except where the vegetation has been denuded from the mountain sides

by land slips, both shores are thickly wooded, the pine and cedar predominating; occasionally their dark green foliage is relieved by the bright light green of the maple. Point Jorkins light house is situated eight cables northeastward of the point on the west side of entrance to Finlayson Channel. From a cylindrical tank, surmounted by a frame work, painted white, is exhibited at an elevation of thirty-eight feet above high water, a light visible over the fairway of Milbank Sound.

From the new anchorage parties were sent out to explore the maze of inlets in the region north of Princess Royal Island. A party commanded by Mr. Whidbey explored the long inlet now called Gardner Canal and had some interesting experiences. On the second day, they discovered a hot spring flowing from among some stones along the beach. Four days later, they met eight Indians in two canoes and were presented with two fine salmon, each weighing about seventy pounds. At another place they were visited by ten canoes, containing about sixty Indians; the largest of these, in which was the chief and his family, had its head and stern curiously decorated with carved work, and rude and uncouth figures in painting, resembling those with which they had adorned their houses. The skins of the sea otter and some land animals they readily disposed of for copper, blue cloth, and blankets, but the former seemed highest in their estimation. Mr. Whidbey permitted the chief to sit with him at dinner, which he considered as a great indulgence and conducted himself very well. He drank some grog and appeared to be very fond of bread and sugar; he preferred the latter, and seemed greatly astonished at the taste of it; he gave some to several of his attendants,

who seemed to be equally surprised. After dinner Mr. Whidbey returned down this branch, accompanied by the chief and his whole party, who every now and then sang songs, by no means unmelodious or unpleasing. The party reached the entrance in the evening, where they stopped for the night in a small cove within a bay. On making signs to the Indians that they were going to rest, all of them immediately retired to another cove, at a little distance, where they remained perfectly quiet, and, at four o'clock the next morning, they accompanied the party again in their researches up the main branch of the inlet. From thence it was about two miles wide, and took nearly a north direction nine miles to the latitude of $54^{\circ} 4'$, longitude $231^{\circ} 19'$, where it was terminated by a border of low land, whence extended a shallow flat from side to side, through which a small rivulet discharged itself at its eastern corner, navigable for canoes only.

In making this survey Mr. Whidbey passed from McKay Reach into Ursula Channel, between Point Pilot, the southeast point of Gribbell Island, and Fisherman Cove eastward, on the opposite shore. This channel skirts the east side of Gribbell Island for about seven miles; thence northward it is known as Boxer Reach. Its shores are composed of steep lofty mountains rising abruptly from the sea and covered with pines and forest trees. Fisherman Cove on the east side of the entrance to Ursula Channel affords indifferent anchorage in thirty fathoms of water. Two and a half miles northward from Fisherman's Cove is a small inlet in which the hot spring discovered and described by Mr. Whidbey is located. Boxer Reach, a continuation of Ursula Channel, northward along the eastern side of Gribbell Island, is about six miles long.

Verney Passage leads from Wright Sound to the southern end of Devastation Channel. Devastation Channel is ten miles long to abreast of Point Hopkins and Point Kerney, where it connects with Douglas Channel and Kitimat Arm.

Gardner Canal (Vancouver's Gardner's Channel) the entrance to which lies southeastward of the entrance to Devastation Channel, trends southeastward, with many sinuosities, for about forty-five miles. The land through which it meanders is an entirely barren waste nearly destitute of woods and verdure, appearing as a mass of almost bare rocks, rising to rugged mountains, whose towering summits, from three thousand to nearly five thousand feet in height, are covered with perpetual ice and snow. Vancouver says: "The whole was covered with perpetual ice and snow that reached in the gulleys formed between the mountains close down to the high water mark." This admirably describes a glacial condition, and yet I do not recall that Vancouver in his entire journal ever uses the word "glacier" or "glacial condition," notwithstanding that from this point northward to the head of Cook Inlet he constantly was coming in contact with some of the most remarkable glaciers in the world. Mr. Gosnell in speaking of this canal says: "The sail up it discloses the most wonderful scenery up the route. The shores are thousands of feet high and almost perpendicular, lending a grandeur and impressiveness to the scene almost indescribable, while magnificent waterfalls and glaciers are to be seen. Perhaps there is not on the whole western coast of America scenes which quite equal it in its way."

Kemano Bay, about thirty miles above the entrance to Gardner Canal, is almost half a mile in extent, with

no bottom at thirty fathoms between the entrance points. The bight on the western shore dries out at low water to Point Entrance, and at four cables within that point sand banks nearly choke the mouth of the Kemano River. This river flows through an extensive valley into Kemano Bay and is a stream of some size, navigable in the summer by canoes for a distance of eight miles from its mouth. Kemano Bay is frequented by the Kitlup Indians during the oolakan fishing season; their village, however, is at the head of the inlet. Bears frequent the Kemano valley, and mountain sheep are found in the mountains, but deer are scarce. In the winter months ice forms at twenty-five miles from the head of Gardner Canal.

From the north end of Douglas Channel the inlet continues in a northerly direction for a further distance of about seventeen miles and is terminated by a border of low land with a shallow flat extending from side to side, through which a stream discharges at the north-eastern corner, navigable only for canoes. This head of the inlet is known as the Kitimat Arm. Its termination differs in some respects from many of the others; its shores are not very abrupt but are bounded on each side by a range of lofty mountains, which, however, are not, as is generally the case, connected at the head of the arm but continue apparently in a direction parallel to each other. The valley between them, which is three or four miles wide, is covered with trees, mostly of the pine variety. An Indian village of the Kitimat tribe is situated near the head of this arm on the eastern shore, with a mission, town hall, and store.

On July 2, the ships quitted their anchorage on Klekane Inlet and proceeded to a new one, while boat parties were again sent out to explore. A party under

Mr. Whidbey surveyed Douglas Channel, passed through Grenville Channel, and visited many other places, including Chatham Sound and Pitt's Archipelago.

I have voyaged through Grenville Channel ten times. It was so named by Vancouver after the Right Honorable Lord Grenville. It is forty-five miles long and is the channel which steam vessels take when proceeding by inshore passage to Chatham Sound, Prince Rupert Harbor, and other northwestern points. Ogden Channel, from the sea, joins it abreast of Gibson Island in the northern entrance. Its entrance eastward of Farrant Island is from eight to ten cables wide, which is gradually reduced to about three cables as Lowe Inlet is approached some twelve miles up, from whence it continues about that width until northward of Point Evening, Klewnuggit Inlet. Above this point Grenville Channel gradually widens and is about two miles wide abreast of Point Calvert, on the west side of the northern entrance. The depths of most parts of it are about fifty fathoms. The land on both sides of the channel is high, reaching an elevation of three thousand five hundred feet on the northeast, and from one thousand to two thousand feet on the southwestern shore, and for the most part is densely wooded with pine and cedar trees. The mountains rise almost perpendicularly from the water, and cause the southern portion of the narrow channel to appear even more narrow than it is. This "deep, glass-floored, echoing green lane" is perhaps the most magnificent waterway on the Inside Passage. Here the eye and ear are greeted with steep forest-clad mountain ranges hardly a quarter of a mile apart, snow-clad crags, the tracks of snow and rock slides, hanging valleys, and noisy waterfalls,

sometimes dancing down from the highest peaks in one uninterrupted leap. Its waters are clear, washed green, in which are reflected the wonderful scenery of its shores.

Whidbey's party surveyed the waters in the neighborhood of Raspberry Islands, and from the rapidity and regularity of the tide began to suspect the inlet "to be a river." But they did not investigate further and failed to discover that they were in the estuary of the Skeena River, the largest stream on the coast of British Columbia north of the Fraser. The Skeena takes its rise in Babine Lake near the village of Nass-gee, about two hundred miles beyond Port Essington. At one hundred and twenty miles from Port Essington, the river divides into three branches, known as the forks of the Skeena, the principal branch taking a northerly direction, the other northwest and southeast directions respectively. The banks of the Skeena are low, covered with small hardwood and cotton wood trees; also good sized white oaks similar to those found on the banks of Fraser River. The shores at the entrance are densely wooded, chiefly with cedar and hemlock, and bear evidence of a remarkably wet climate. Near its entrance, at six miles below Port Essington, on the eastern shore, the river divides into three channels, named North, Middle, and Telegraph passages.

The name Skeena is taken from "*Skee*, terror, calamity, trouble; and *Kena*, a stream." It is said the name was given to it because of its poisonous shell fish, which killed many canoe loads of the first people who came around from the Nass River and entered it. It is navigable by small steamers for sixty miles above its mouth and for two hundred miles by canoes. It is the greatest salmon stream on the northwest coast. The

word "Tsimpsean" means "in the Skeena," by which is meant to express: "The people living on or along the banks of the Skeena River," and this correctly records a historical fact, for the Tsimpsean Tribes, many generations ago, lived at different points along the banks of the Skeena River. The name of each tribe gives those acquainted with the topography of the country, and the language, the exact original location of all the tribes. In July, the Tsimpseans return from the Nass River to their old fishing villages on the Skeena River, where for centuries their ancestors have exercised the privilege of catching the red salmon as it is wriggling its way up to its breeding ground to deposit its spawn. Here, in a few weeks, not only all necessary fish for immediate use, but a full supply for the remainder of the year, as well as for trading purposes, is secured; the whole family turns its attention towards picking and drying the wild berries growing in abundance along the banks of the river, as well as to the curing of the salmon caught by smoking and drying it for use. There is perhaps, the most remarkable display of totem poles along this river to be found on the northwest coast. The empire of the Kwakutle Indian ceases at the mouth of the Skeena River, and the Tsimpsean, the greatest of the coast tribes, occupy the coast to the Alaska line. These Indians have always held a monopoly of the inland land, maintained a trail with the interior, and kept the Tinnehs in admirable subjection. A few of these mountaineers are occasionally seen on the river. This explains why Fort Stager and Hazelton continued so long to be mentioned as stockaded posts by the Hudson's Bay Company. Surrounding the mouth of the Skeena River are canneries at Port Essington, Claxton, Cascade, Aberdeen, Inverness, Standard, and Mum-

ford Landing, the work at and for which is performed by Indians, Chinese, Japanese, Greeks, and Scandinavians. One of the most beautiful sights that I have seen was that of hundreds of these fisherman casting nets in these waters.

The upper part of the Skeena River is frozen over during the winter, and in severe winters the whole river as far as Port Essington. The north Skeena entrance is sometimes encumbered with ice during the winter, but it seldom reaches down as far as Kennedy Islands. From Estall River comes the greater part of the loose ice which encumbers the Skeena in the cold season. Strong northeast gales in winter interrupt communication with the shore, and though the river is not frozen over there is much loose ice and also quantities of heavy drift-wood. Vessels cannot remain off Port Essington during the months of December, January, February, and March, and well into April. Here the snowfall has been about six feet on the level.

The town of Port Essington lies on the south shore of Skeena River about thirteen miles from its mouth and six miles from De Horsey Island. The village is situated on the west side of Point Village, forming the angle between the Skeena and Estall rivers. There are two wharves, a post office, and two churches here. This is an important distributing station for the British Columbia hinterland, and it is a center of fishing and tanning industries. It is distant from Hazelton, the head of Skeena River navigation, one hundred and forty-five miles. Balmoral settlement, lies on the east side of the mouth of Estall River. Steam vessels call regularly at the large cannery at Balmoral. Raspberry Islands lie off the east point of Estall River, northwest of Balmoral; they consist of two wooded islets joined to-

gether at low water. At two miles above Raspberry Islands, on the southern shore, is a hot spring, 110° fahrenheit; the inhabitants use it for rheumatic affections. Potatoes are plentiful; also berries, which are dried by the Indians for winter food.

On July 4, the ships left their anchorage and proceeded to a new rendezvous in an inlet on the east side of the Isle de Gil. Here they remained a few days and, on the 9th, moved to a place called Fisherman's Cove on the coast of the same island. Here the crews feasted on fish taken with the seine and on berries picked on the shore. Here also they were visited by three canoes of natives, who seemed to Vancouver to differ somewhat in appearance from the Indians thus far seen.

On July 14, the ships quitted Fisherman's Cove and in the evening passed through (Otter Channel) the northern entrance into Nepean Sound, when the wind, which blew in very light air, being favorable, their course was directed slowly up the Canal del Principe. The next morning a light breeze springing up, they stood to the windward, and at noon Banks Island extended from S. 51° E. to N. 70° W., the latter being in line with a part of the shores of Pitt's Archipelago; so that, as yet, they had not an open passage to the sea. At this time they were abreast of a small opening about N. E. by N. at the distance of a mile, apparently the same that had been named by Mr. Duncan Port Stephens; its entrance was obstructed by many rocky islets and rocks, and it presented no very tempting appearance as a port. Here the easternmost land in sight on the northern side of the channel, bore by compass S. 58° E., and the nearest shore of Banks Island S. W. by W., about a mile distant, and the observed latitude was $53^{\circ} 26\frac{1}{2}'$,

longitude $230^{\circ} 19'$. In the afternoon, they passed the Port de Canaveral; it seemed to be extensive and to have an entrance free from obstruction and about a league and a half wide. They made tolerable progress and continued under sail until nine o'clock in the evening; when they anchored in thirty-four fathoms of water, within the length of three cables from the shores of Pitt's Archipelago, which consisted here of a number of small islands and rocks, lying in front of land more compact, extending westward from the north point of Port de Canaveral. Here they had a view of the open ocean between a projecting point on the shores of Pitt's Archipelago and the northwest point of Banks Island.

The wind prevented their sailing until nine o'clock in the morning of July 16. By eight in the evening, they had reached nearly the western extent of this channel, and finding soundings near the eastern shore in thirty-five fathoms of water, they anchored for the night. In this situation, the northeast point of the Canal del Principe bore by compass N. 66° W., about a league distant. The shores abounded with a great number of very shy sea otters.

Light variable winds, attended by dark, gloomy weather, detained them at anchor at this station until four o'clock in the morning of July 18, when they weighed anchor. They had a moderate breeze from the westward, with cloudy weather, which soon turned to drizzling rain approaching nearly to fog; they, however, continued to turn towards the ocean, and by eight o'clock in the evening gained a good offing between Queen Charlotte Island and the northwest part of Pitt's Archipelago, where they found a good space to work in, the wind blowing N. N. W., exactly in the

direction they wanted to steer. In the morning, Queen Charlotte Island was in sight, but a haze prevented their distinguishing any of its conspicuous points. At noon, the northwest point of Bank's Island bore by compass S. 83 E., the island of Bonilla S. 55 E., and the northernmost land in sight N. 55 E.

The next morning, July 20, they had again an indistinct view of Queen Charlotte Island; but the wind veering to the southeast, accompanied with thick, misty weather, they were soon again obscured. About noon, the wind freshened with all the appearance of an approaching gale and rendered their station by no means so pleasant as could have been wished. By the transient view they had had of the shores north of them, they appeared broken, and bounded with many rocky islets and rocks. They had now passed the north point of Stephen's Island, which bore by compass S. 84 E. at the distance of two leagues, and were abreast of the opening through which, from Chatham Sound, Mr. Whidbey had seen the ocean; but at too great a distance to discern the innumerable rocky islets and rocks that nearly occupied the whole passage leading out. These dangers, the gloominess of the weather, and the impending gale from the southeast combined to give this unexplored channel an appearance so forlorn as scarcely to admit the idea of its being navigable. Vancouver was still very unwilling to abandon the prospect they now had of speedily arriving at the station to which Mr. Whidbey with the boats had already traced the boundaries of the continental shore; and for this reason he directed their course towards the intricate inhospitable labyrinth lying between them and the point he was so anxious to gain, in the hope that amongst the numerous islets and rocks some place of secure anchor-

age might be found, until the weather should become more favorable. As they advanced, their prospects became less flattering. The lucid intervals of the mist only exhibited their situation to be more intricate and dangerous, by the discovery of rocks and breakers that had not been seen before. In this painful situation of care and apprehension, Vancouver experienced no small degree of relief, by unexpectedly discovering a whale boat rowing towards the ship; they instantly brought to, and on the officer coming on board, Vancouver learned that he belonged to the Butterworth of London, then at anchor in a very commodious place on the eastern side of the rocky group before them, whither he very civilly offered to conduct them. They made sail immediately for the channel they had before been steering for, which was the same as that by which the Butterworth had entered the sound. They reached the promised station about six o'clock in the evening and anchored in thirty-six fathoms of water. The Butterworth, Prince Lee Boo, and Jackall schooner, all belonging to the same concern, they found riding here under the orders of Mr. Brown, commander of the Butterworth, who saluted them with seven guns, which compliment was returned with five.

Soon after they had anchored, Mr. Brown visited the Discovery, and Vancouver says in this connection: "I believe I may venture to assert, that the satisfaction arising from meeting with our fellow countrymen in such distant regions of the globe, was very mutual on this occasion."

While the Butterworth had remained stationary, Mr. Brown had been employed in his small vessels in various directions, particularly to the northwestward, in procuring furs. He very obligingly communicated to

Vancouver every information he had been able to obtain. The principal circumstance was that of his having sailed up a large opening, whose southern entrance was in latitude $54^{\circ} 45'$. Mr. Brown found it extended to the northwestward, with several arms branching from it in various directions to the latitude $56^{\circ} 20'$, where, in a southwesterly direction, it again communicated with the North Pacific. He had understood from the natives that there was in this neighborhood a very extensive inland navigation, communicating with the sea to the northward, which it required three months to reach. With the people on that sea they traded for whale oil, sea otter skins, and other marine productions. This inland navigation Mr. Brown supposed to be an extensive arm, lying thence towards the N. N. E. about nine leagues distant; the entrance of which he had visited and found it spacious and large, but had not penetrated any distance into it. At its southeast point of entrance a small branch extended to the southeastward, up which he proceeded with his sloop and schooner about six miles, where they anchored before a village of the natives, whose improper conduct made it necessary to fire upon them from the vessels, which was attended with some slaughter. As these openings were near the continent, some leagues to the northward of Mr. Whidbey's late excursion, they would, it was probable, fall under Vancouver's future inspection; this made him particular in his inquiries respecting those shores, about which Mr. Brown obligingly offered Vancouver one of his small vessels to precede them and sound the channel and begged that he would retain her as long as he should find it expedient; which very kind offer Vancouver readily accepted.

Vancouver conjectured that the passage mentioned

by Mr. Brown was probably the same as that laid down in Señor Caamano's chart, named "Estrecho de Almarante Fuentes." The parallels of 43, 53 and 63 degrees of north latitude, being the several different positions alleged to be the entrance of the famous Rio de Los Reys of Admiral de Fuentes, Vancouver was much interested in the narrative of Mr. Brown and determined diligently to apply himself to the determination of the truthfulness or untruthfulness of the admiral's claim of having found a passage connecting the Pacific with the Atlantic. Accordingly, having gained a very complete view of the region surrounding his anchorage, he dispatched Mr. Whidbey on July 21, in the large cutter to recommence his examination of the continental shore towards the opening. In this pursuit Vancouver purposed to follow him with the vessels. About eleven o'clock, in company with the Chatham, and with the sloop Prince Lee Boo sounding ahead, the Discovery departed from the aforementioned anchorage.

As the day advanced, the weather became serene and pleasant; and as the wind was favorable they made very good progress along the eastern shores of Chatham Sound. These were low and somewhat indented with small bays but were bounded by a reef of rocks at the distance of a quarter of a mile from the shore. The more interior country was composed of a lofty range of mountains covered with perpetual snow. These, as well as the islands of the sound, produced a great number of pine trees, though apparently of no great size. In the evening they passed two clusters of low rocks, with some breakers about them to the west of them, as also the north point of the island forming the west side of Chatham Sound to the northward of Brown's Pas-

sage. This island, in a direction N. N. 20 W., was fifteen miles long and five miles broad from east to west. To it Vancouver gave the name of Dundas Island after the Right Honorable Henry Dundas.

To the north of Dundas Island they had a distinct view of the ocean to the westward, through a spacious channel that appeared free from interruption; and by sunset they entered (Portland Channel) the arm up which they expected to find an extensive inland navigation. To the southeast point of entrance Vancouver gave the name of Point Maskelyne, after the astronomer royal, and located it in latitude $24^{\circ} 42\frac{1}{2}'$, longitude $229^{\circ} 45'$. This is the worst error of latitude made by Vancouver that I have found in his journal and evidently it was occasioned by means of a typographical error. The true location of this point is in latitude $54^{\circ} 38'$, longitude $130^{\circ} 27'$. I have called special attention to this error in justification of what may have been a like mistake made by Juan de Fuca in locating the entrance to the Straits of Juan de Fuca. The apparent extent of this inlet did not answer Vancouver's expectations, from the description that had been given of it. Its entrance was not more than two miles and a half across, and this, at the distance of a few miles, seemed to be materially contracted. If this was the same branch described by the natives, which Vancouver thought was much to be questioned, especially as some of Mr. Brown's gentlemen considered the opening meant by those people to be further to the westward, it was called by them Ewen Nass. The word Ewen Vancouver understood from the natives to signify great or powerful; as, Ewen Smoket was a great chief; but the word Nass was completely unknown to Mr. Brown and all of his party.

The divided country they had now examined from the forty-seventh degree of north latitude to this station, and the information derived from Mr. Brown rendered it highly probable that the continental shore still continued to have extensive islands lying between it and the ocean to a very considerable distance further north. The three months time which, as Mr. Brown understood, was required by the natives to make so distant a journey might be accounted for by their tardy mode of traveling through each others dominion, or in passing through the various windings and crooked shallow channels. It was, however, Vancouver's business now to determine the question, and embracing the favorable opportunity of a fair wind, they steered up the inlet, and were joined by Mr. Whidbey's party, who had traced the continental shore to Point Maskelyne; where, on its becoming broken, he had desisted from any further examination. At ten that night the Prince Lee Boo reached the contracted part of the inlet and made the signal for having soundings and an anchorage. Vancouver's vessels arrived at this station about eleven o'clock and anchored in thirty-five fathoms of water with soft bottom, after having passed two openings on the eastern shore, besides that immediately round Point Maskelyne, where Mr. Brown had had his dispute with the natives. Vancouver found their station the next morning, Monday, July 22, to be off the northwest part of an island located near the eastern shore, and further up the inlet than those in the sloop, Prince Lee Boo, had yet been; no information from the traders could, therefore, be any longer of use to Vancouver, though a continuation of their services would have been very acceptable to him. This made Vancouver regret that he had not one or two vessels of

thirty or forty tons, calculated as well for rowing as for sailing, to assist in this intricate investigation.

Vancouver had it in mind to proceed up this inlet until he should see sufficient employment for two boat parties, which he was convinced the surrounding region would soon afford; also, to seek a convenient situation where the vessels might remain; and whilst this service was being executed, to embrace the opportunity for making such astronomical observations as might be procured.

That day a few of the natives visited the *Discovery* in five or six canoes. They brought little to dispose of, yet appeared to be anxious that the vessel should remain in their neighborhood. Several inquiries were made for "Ewen Nass," but these natives seemed to be totally ignorant of the phrase, until it had been repeated several times, and the various directions had been pointed; upon which, some of them repeated the words and imitated Vancouver's motions, giving some amongst his party reason to imagine that they meant that Ewen Nass was up this identical branch of the inlet; though in all other respects Vancouver's party remained totally ignorant of their language. The appearance and direction of this opening, however, by no means favored the opinion that it was an extensive channel communicating with the ocean to the north. The water that flowed from it remained without mixing on the surface of the water of the inlet. The upper water was nearly fresh, of a lightish color, interspersed with thick muddy sheets, indicating it to have flowed from a small river whose source was not very remote.

The explorers sailed up the inlet to a convenient anchorage, which was named Salmon Cove. On going

on shore they found a small canoe with three of the natives, who were employed in taking salmon, which were in great abundance in a very fine run of fresh water that flowed into the cove. Some of these fish were purchased with looking-glasses and other trinkets. The fish were small, insipid, and of a very inferior kind, and partaking in no degree of the flavor of European salmon. In the afternoon, the tents, observatory chronometers, and other instruments were sent on shore, under the directions of Mr. Whidbey; and Mr. Johnstone in the Chatham's cutter, accompanied by Mr. Barrie in the small cutter of the Discovery and supplied with ten day's provisions, departed for the purpose of commencing the survey of the continental shore northward from Point Maskelyne. The account Vancouver had received of this famous inlet from Mr. Brown induced him to undertake the principal examination of it, and the Discovery's yawl and launch were equipped with supplies for a fortnight, that being as much as they could possibly stow; Lieutenant Swaine was directed to attend Vancouver in the launch, and Mr. Puget accompanied Vancouver in the yawl. The appearance of the country on the western side of this inlet left Vancouver in little doubt of its being the continent; and accordingly they departed with the full expectation that, during this excursion, they would finally determine the reality of the discovery attributed to the labors of Admiral de Fuentes.

Prince Rupert, Metlakatla, and Fort Simpson

Vancouver's anxiety to find the Rio de los Reys of Admiral de Fuentes was such as to cause him and Mr. Whidbey to make a rather superficial survey of Chatham Sound and its surroundings, and for this reason a more extensive consideration will be given to these in this connection. This sound was named in honor of John Pitt, second Earl of Chatham. It is about thirty-eight miles long north and south, and from seven to fourteen miles wide, lying between the islands outlying the Tsimpsean Peninsula on the east and Stephens and Dundas islands on the west. In the middle of the southern portion are the two groups of Rachel and Lucy islands, together with other detached islets and rocks. This sound communicates with Hecate Strait by three channels, namely, Edye Passage, in its southwest corner, westward of Porcher Island; Bell Passage, westward of Stephens Island; and Brown Passage, southward of Melville Island. Northward, it leads to Portland Inlet, and the inner passages to Alaska. From a white rectangular building with a red roof, erected on the northeast extreme of Lucy Island, is exhibited, at an elevation of sixty-five feet above high water, a fixed white light visible from a distance of thirteen miles in clear weather.

Prince Rupert Harbor, the entrance to which is situated between Point Lima of Digby Island, and Kaien Island, is three miles long in a north and south direc-

tion, and three cables broad, expanding and curving to the northeastward and forming the harbor on the southeastern side of which is situated the city of Prince Rupert, the terminus of the Grand Trunk Pacific Railway of Canada. The approaches to Prince Rupert Harbor are deep and available for the largest vessels at all times. This harbor was declared a public port of entry by proclamation dated March 9, 1912. The southern approach to the harbor lies between Kitson, Ridley, and other islands near the coast of the Tsimpsian Peninsula, on the east, and Digby Island and others southward of it on the west.

The City of Prince Rupert and Port Rupert were named in honor of Prince Rupert, grandson of James I of England, and third son of Elector Palatine Frederick, of "Winter King" fame. He was born at Prague, December 18, 1619, but spent most of his active career in England, where, when little more than a boy, he won fame as the dashing leader of the Cavalier cavalry in the Puritan Revolution. In 1670, after the Restoration of the Stuart family, Charles II granted to him and to seventeen others a charter incorporating them as the "Governor and Company of Adventurers of England Trading into Hudson Bay." Thus originated the celebrated Hudson's Bay Company, of which Prince Rupert was the first governor. He lived a remarkably active and tumultuous public life, and won distinction as a naval officer in the wars with the Dutch. He shared also in the prevailing immorality of his time, the celebrated actress Mrs. Hughes having been his mistress. He had a mechanical and inventive mind, and devoted his leisure to engraving, chemistry, the perfection of gunpower, and other arts, especially

those of military science. Whether he was the actual discoverer of mezzotint engraving, in which he was skillful, is uncertain, but this seems probable.

The city of Prince Rupert is situated on Kaien Island, the southern side of Prince Rupert Harbor, with deep water close to the wharves. The Grand Trunk Pacific Hotel, a court house, post office, and other public buildings, are among its notable structures. It is distant five hundred and fifty miles from the city of Vancouver, and twenty-five miles from Port Simpson, and is the nearest port on the North Pacific coast to Japan and the far east. In 1913, one thousand six hundred and nineteen vessels entered the port, and one thousand six hundred and twenty vessels cleared. The inward registered tonnage was 3,087,544 tons, and the inward cargo tonnage 649,341 tons. The outward registered tonnage was 2,836,975 tons, and the outward cargo tonnage 985,804 tons. The wireless telegraph station is situated above the quarantine station on top of a hill two hundred and forty-five feet high; and the city is connected with the telegraph system of the Dominion.

British Columbia exercised great foresight in its conveyance of Prince Rupert to the Grand Trunk Pacific Railway Company. The government required that a plan for it should be prepared by competent landscape architects and civil engineers. In the plan so prepared, one-half of the water front was reserved for a public wharf and landing, and the title to every fourth lot was to remain in the government for future disposal. All improvements of the townsite including street grading, sidewalks, sewers, waterworks, etc., were to be made jointly by the government and railway company, each

to pay its proportion according to its holdings. In May and June, 1911, lots were offered for sale at auction, and a million and a half dollars worth were sold.

My first visit to Prince Rupert was made July 25, 1911, that being directly after the sale of town lots. As we walked through the place my wife remarked, "This is about the newest town that I have ever seen." Already the making of streets and the building of houses was well under way, and the Grand Trunk Railway had been constructed one hundred miles from the city. Great excitement existed and many conjectures were made as to the future of the city. The making of the city seemed like a hopeless undertaking. It was being built on a mountain side, and the streets were being hewn out of the solid rock. The population at that time was estimated to be 4,184. Prince Rupert Inn had been finished and was doing a "land-office business." We had our dinner there and ate sock-eye salmon which had been cooked to a "Queen's taste." The harbor was one of the finest that I had visited, and the outlook over it and its islands was almost indescribably beautiful. I visited the place again in July, 1918, and found that the railway had been completed, and that the wonderful changes above mentioned had been made; truly it is a city of great promise.

Tsimpsean Peninsula, into which Prince Rupert Harbor is an indentation, is formed by Work Channel, which penetrates the mainland in a southeasterly direction, from the coast side of entrance to Portland Inlet, the head of the channel approaching the Skeena River within four or five miles. This peninsula, which takes its name from a tribe of Indians residing upon it, is nearly thirty-two miles long in a general southeast and northwest direction, with a greatest breadth of nine

miles. The headquarters of the tribe of Indians inhabiting this peninsula are at Metlakatla and Port Simpson.

Metlakatla Bay is formed between the northern coasts of Digby Island and the Tsimpsean Peninsula, and is protected from the westward by Tugwell Island and the reefs which join that island to the shore of the peninsula. Metlakatla village, an Indian settlement, founded as a missionary station, is situated upon Point Mission on the north shore of this bay. The houses forming the mission are built upon a bank, about one hundred feet above the high water mark, and are mostly white-washed, the whole settlement from the offing presenting the appearance of a picturesque English village, the most conspicuous buildings being the church, school house, and mission-house. A wharf, four hundred feet in length, with a depth of fifteen feet at its outer end, has been built out to the southward of the village, about one cable westward from Cape Mission.

The founding of the mission at Metlakatla Bay was the outgrowth of the suggestion of Captain J. C. Prevost, a commander in the British Navy, made in the spring of 1856 to the Church Missionary Society of England. He called their attention to the fact that Fort Simpson, a fortified trading station of the Hudson's Bay Company directly south of the Russian boundary line, would furnish a well-nigh perfect base for a new mission, both because around it were located the numerous villages of the Tsimpsean, the most intelligent tribe of the natives on the coast, and because they, being the traders of that region, in their turn were the intermediaries between the whites and the other Indians, as well as between the Indians of the coast and

those of the interior. The society, after two anonymous friends had contributed to it twenty-five hundred dollars for the proposed mission, selected William Duncan, a young man and earnest Christian, to go to Fort Simpson and take charge of the proposed mission.

As early as 1859, Mr. Duncan, afterwards known as the "Apostle of Alaska," had come to the conclusion that if the work he was carrying on among the Indians was to have any permanent results, it would be necessary to remove them from the evil influences of heathen homes, surrounded by the degrading influences of the white people at Fort Simpson. After an investigation, he came to the conclusion that Metlakatla, situated seventeen miles south of Port Simpson, was best fitted for the new home of his adherents. "Metlakatla," the name given to the place, Captain Walbran says was derived from "Metla," between, and "Katla," salt, understood to mean "an inlet with an outlet," or "an inlet running parallel with the seashore," a "through passage." Mr. Duncan, after visiting it in the spring of 1860, described it as a "narrow, placid channel, studded with little promontories and pretty islands with a rich verdure, a waving forest, backed by lofty but densely wooded mountains. A solemn stillness, broken only by the cries of flocks of happy birds flying over, or the more musical notes of some little warbler near at hand." What especially commended it to Mr. Duncan was the splendidly protected harbor, the fine beach, furnishing an excellent place for the canoes, and the fact that portions of the land on many of the promontories had already been cleared, and would furnish fine garden spots for the colonists. This was the description of the place and surroundings of where is now located the village of Metlakatla and the city of Prince



METLAKATLA VILLAGE AND METLAKATLA BAY, ALASKA
From a photograph taken in 1912

Rupert. The railway company paid in the neighborhood of fifty thousand dollars to the remnant of the Metlakatla Indians for their reservation interest in the lands on which the city of Prince Rupert is now located. This money was invested by the Indians in the construction of modern dwelling houses at Metlakatla.

Mr. Gosnell, in speaking of this village, says: "This at one time used to be a veritable bee hive, under the management of Mr. Duncan, a missionary sent out in the early days by the Church Missionary Society of London, England. He had a sawmill, a woolen mill, a cannery, a brick yard, a boy's home, a girl's home, and an industrial school, and many other means of keeping the Indians employed. Later on the Home Society sent out Bishop Ridley to take charge and look after the Society's interest. This caused a strife between the two factions, which . . . ended in Duncan leaving with his adherents for a new settlement some thirty miles above Fort Simpson, called New Metlakatla. The boy's and girl's home are still running, and the industrial school is doing good work. Their houses, until lately, were all built in one style, a lofty two-story building, which, if divided up would contain about eight or ten rooms, and each had a nice little garden patch laid out in fruit trees and vegetables, which have been much neglected of late, but, nevertheless, gooseberries, raspberries, currants, and strawberries thrive here wonderfully. The Church of England, built by Mr. Duncan, is a beautiful piece of work, and is the largest and most Anglican in appearance in the province. The Indians are very musical, and have a brass band, and in almost every other house is an organ. The church organist is an Indian."

Near the northwest extremity of the Tsimpsean Peninsula lies the harbor of Port Simpson, the northernmost port of British Columbia and the most spacious harbor on this part of the coast. Several salmon streams discharge their waters into this bay. The northern shore of the port is fringed with a rocky beach, backed by rapidly rising high land; the southern shore, east of the settlement, is not so regular nor so steep. On the northern shore is a conspicuous saw-mill and landing pier.

Fort Simpson was constructed by the Hudson's Bay Company in 1854, as a trading post, on account of the good anchorage found in the vicinity and the facilities afforded for sailing vessels. It was named after Captain Aemelius Simpson, in the marine service of the Company, who died in 1831. Sir George Simpson in making his overland journey around the world, during the years of 1841 and 1842, visited Fort Simpson. In his account of the visit he says: "This establishment was originally formed at the mouth of the Nass River, but had been removed to a peninsula, washed on three sides by Chatham Sound, Port Essington and Work's Canal." John W. Arctander in his book entitled *The Apostle of Alaska*, says the walls of the fort consisted of palisades, thirty-two feet high, built of trunks of trees over two feet in diameter, driven into the ground, and solidly riveted together. The double gate was iron bound and bolted, and in it was a smaller gate, similarly protected, at which a sentinel was stationed night and day, and through which, under the rules of the company, not more than two Indians at any one time were admitted, so great was the fear of the inmates of the fort of the savagery of the natives. At the four corners of the

palisades, which enclosed a space two hundred and forty feet square, were built bastions, two of which were provided with cannon, able to sweep the surrounding country in all directions.

The walls and bastions of the fort have been taken down and but little remains of the original building. The land in the immediate neighborhood of the settlement has been cleared of bush for some distance, but is swampy, with no roads or trails, except to Georgetown, to the southward, at the head of Big Bay. The white population of the place in 1910 was about two hundred; the native population, numbering about five hundred, fluctuates largely, especially during the summer season. The store stands close to the beach, at the end of the Company's pier. The fort has a government hospital, post office and telegraph station, Episcopal and Methodist churches. A telegraph line connects with Port Essington, Ashcroft, and the general Canadian system. There is a telephone and plank trail to Georgetown in Big Bay. Before the Hudson's Bay post was built, the villages of the Tsimpsean Indians were in the vicinity of Metlakatla, but the tribe being traders as well as hunters migrated to the trading post and to Village Island, where they have settled and have well-built houses in European style. They have constructed a trestle bridge, two hundred yards long and from fifteen to twenty feet high, connecting Village Island and the mainland.

Nine tribes, with a population of two thousand three hundred, living in one hundred and forty houses were found there by Mr. Duncan, the Apostle of Alaska, when he arrived in 1857. The houses of the Indians were one-story affairs, built on poles or piles on the beach, fifteen or twenty feet above the high tide,

one house almost connected with the next; none of them were provided with windows. Most of them were, however, of quite liberal dimension, some of the chiefs' houses having a floor space of fifty by sixty-five feet. The frame work consisted of heavy logs, posts, and beams, two or three feet in diameter. Above the large beams rested the rafters of the roof, which was made of big slabs of bark, held in position by stones placed upon them. There was only one room in each house. Around the walls ran an elevated platform used for storing eatables and treasure chests, as well as for sleeping purposes. In the center was a big, deep, oblong space, sometimes dug into the earth. Here was a huge fireplace with its blazing logs, and directly above it an opening in the roof to allow the smoke to escape and also to furnish whatever ventilation was needed. It was in this central portion of the house that the family spent the day when not engaged outside. Often such a house would be the home of thirty to forty people. This Indian village has wholly changed its appearance. The old lodges have been replaced by neat two-story cottages, and the totem poles have nearly all disappeared.

I first visited Fort Simpson July 25, 1911. At that time the Indian village was deserted, the Indians having gone to the Skeena River to fish and to the sea to work at the different fish canneries. This hegira takes place annually. The doors of the houses were not locked, and we could and did go into and inspect them. In the village we saw many beautiful gardens. The Indians are now using grave stones in marking the burial places of their dead. Upon one of these I read this inscription: "In memory of l'st. Legaic, a head chief. Dead a long time before the white people

came – also three other head chiefs named Eagle; also, Paul Legaic, head chief of the Tsimpsean nation, who died a Christian at Fort Simpson, B. C., Jan. 7, 1891, age 45 years;” on another stone was this inscription: “In memory of Abraham Lincoln, Chief of Kilshee Tribe at Port Simpson, died July 21, 1890, age 85 years. He said, ‘Let me die in peace; peace I leave with you.’” I was told that this monument cost the tribe seven hundred and fifty dollars. The portion of the town in which the white population lives is neatly constructed of frame buildings. It has a hospital and several churches. I was told that the Indians were well-to-do people. It was at this place that I first became acquainted with the raven, my note book entry being, “Black birds – plenty of them.” The tide had receded and these birds were feeding on sea-food brought in by it. The size and call of the birds convinced me that they were not crows. The Grand Trunk Railroad Company wanted to make this place its western terminus, but the government would not agree to it.

The Indians of the Northwest Coast

Sir George Simpson, in his account of his visit to Fort Simpson in the years of 1841-42, says it "is the resort of a vast number of Indians, amounting in all to about fourteen thousand, of various tribes." This statement in connection with the fact that Fort Simpson virtually is the dividing point between the southeast and northwest of the Northwest Pacific coast, makes this an opportune time and place to take some account of the Indians. Those northward of the Straits of Juan de Fuca are divided into five great divisions, namely, the Haidas, Tsimpseans, Thlingets, Aleuts, and Tinnehs. These main divisions are again subdivided into stocks, tribes, and families. Livingston F. Jones, in his *Study of the Thlingets*, says: "Each of these divisions comprises people of a different type and language from all the others; each has its own specially defined territory, climate, and the customs of the people in one division differ in many respects from those in the others." Vancouver found that this was true, and he measured the difference between them by comparison with the Indians at Nootka, known as the Nootkans.

The Haidas are confined to the Queen Charlotte Archipelago and are peculiarly an island people. In the Alaska territory they are classified as the Haida-Thlingets. Their country, in the main, is a mountain range, cut into by various inlets and harbors, surrounded by waters in which fish and sea animals are

abundant, and thus they have always had plenty of food. Formerly they were a daring and war-like people and expert sailors in their immense cedar canoes. They were also artistic in their tendencies and expert in the use of their primitive tools. They are noted for the beauty and size of their canoes and their skill in carving. Most of the stone pipes inlaid with fragments of *Haliotis* or pearl shells, so common in ethnological collections, are their handiwork. The slate quarry from which the stone is obtained is situated on one of the Queen Charlotte Islands. Of the coast Indians they are the finest in appearance, and many of their young women are handsome. Formerly they were a very numerous and powerful people, but their numbers have been greatly reduced.

The Wakashan stock, of which there are two divisions, the Kwakuitl and Nootkan, inhabit the east and west coast of Vancouver Island, adjacent islands, and to some extent the adjacent mainland. They were, and still are, a numerous people, and, as experience has shown, have been least amenable to civilization and missionary influence. Many of them are still Pagans, and some of the tribes formerly were cannibalistic. In fact, it is said that they were the most dangerous, war-like, independent, and venturous of all the coast Indians.

The great rivals of the Haidas, in most respects—numbers, physical prowess, and artistic skill—were the Tsimpseans, inhabiting, generally speaking, the country of the opposite coast of the mainland. The Tsimpsean Peninsula is said to have been their chief seat. The Haidas and Tsimpseans, in the past, dominated the coast as far south almost as the Columbia River, and drew hostages in slaves from many tribes, being exceed-

ingly cruel and remorseless in their methods. The Tsimpsean people had reached as high a point of development in every way as any of the other tribes of British Columbia, when first discovered. Their artistic work, in wood, horn, ivory, and stone, was not surpassed even by their neighbors and rivals, the Haidas. A wealth of information relative to the social and domestic life of the British Columbia Indians, is contained in a guide book prepared by Dr. C. F. Newcombe, from which is compiled the following abstract, by stocks and divisions of Indians for 1909:

<i>Stocks</i>	<i>Divisions</i>	<i>Numbers</i>
Haidan	{Masset 373 Skidegate 238	611
Tsimpsean		3,420
Wakashan	{Kwakiutl 2,013 Nootkan 2,055	4,068
Dene, or Athapascan		2,695
Kootenaian		505
Salishan	{Bella Coola 281 Interior 5,413 Coast 4,598	10,292
Total British Columbia Indian population		21,591

The native population of the North Pacific coast has been slowly decreasing. At the present day, according to Livingston F. Jones in his *Study of the Thlingets*, there are not, all told, more than thirty thousand of the aboriginal stock in Alaska. These are scattered over that vast domain, no one locality being thickly populated.

The Thlingets occupy many villages in what is generally known as southeastern Alaska. The territory mainly occupied by them is a vast archipelago, which ends at Cape Spencer and contains more than a thousand islands. On these the villages of the Thlingets are seen, rather than on the mainland. They choose for their townsites cozy harbors with fine beaches. The Tongass tribe embraces the natives in and around Tongass; the Hanega, those of Klawock and vicinity; the Stickeens, those at Wrangell; the Kaaks are in and near Kake; the Takoos and Auks are found at Juneau; the Sitkans at Sitka; the Yakatats at Ykautat; and the Chilkats at Haines and vicinity. Besides the divisions already mentioned the tribes are sub-divided into clans and families with their distinctive totemic badges or crests and family house. The great totemic divisions of the Thlingets are the Crow and the Eagle. Each community of natives is independent of every other. There is no federation. Their only bond of unity is the tribal or totemic bond. In every community there are two or more tribes, with a chief at the head of each.

The Thlingets have no written language. Their totemic emblems are the nearest approach to it. Their oral language has been handed down to them from generation to generation and is constantly undergoing change, and abounds with corruptions through the efforts of the natives to adopt or incorporate words from English and Russian into their own language. The social life of the average native community is of a very low type. They have very little to break the monotony of life. Aside from feasting and dancing they have practically no amusements. One of their most conspicuous traits is independence. What he wants to do, he will do, as a rule. He lives

for the present and gratifies the desires of the hour no matter what it costs him. He is not avaricious; on the contrary, he is inclined to extravagance. Endurance of bodily pain, especially by the women, is one of their characteristics; in order to bear pain without a groan, they often put a stick between their teeth to bite on. Sociability is one of their strong points. One of the severest punishments to one of them is to compel him to live apart from his people. They are extremely fond of all kinds of amusements. They are not blood-thirsty, nor is treachery a pronounced trait among them. Their chief diet consists of fish, fresh or smoked; they are fond of the porcupine and seal. Berries, of which there are no fewer than thirty varieties, form an important part of their food supplies. These grow wild and some of them in great abundance. The principal vegetables used by them are potatoes, turnips, and cabbage. These they raise themselves and they also buy them. One of their most popular vegetables is the seaweed, which resembles the cabbage leaf, but is much finer when taken from the sea. The inner bark of the hemlock is used as a food by them; it is pressed into cakes and dried for future use and cooked before eating. Tea and coffee are popular beverages but not without sugar.

The Aleuts are confined to the southwestern panhandle of Alaska, and the Aleutian Islands. Captain Cook visited their vicinity in June and October, 1778. He described them as of low stature but plump and well formed, dark eyed, and dark haired. The women wore the parka, a single garment, loose fitting of sealskin, reaching below the knee; the men, the same kind of garment, made of the skin of birds with the feathers worn next to the flesh. Over this garment, the men wore an-

other made of gut, under the name of Kamelinka, or Kamelayka. All wore "oval snouted" caps made of wood dyed in colors and decorated with glass beads. Dall, in describing the Aleuts, says they are light and nearly of the same color as the Innuits of the northwest. Their features, perhaps from the great admixture of Russian blood, are more intelligent and pleasing. The hair is usually coarse and black. The mustache and beard are always very sparse and of the same color as the hair. Their stature is about the same as that of most civilized races; if anything, above the middle height. The habit of their constantly sitting in their bidarkas, which are very contracted, has given most of them a stoop and their legs are usually ill-formed. The women are shorter but better proportioned, and many of them are pleasing in appearance. Their houses were dug in the earth, lined with upright poles of driftwood, and roofed with planks covered with turf; these they entered through holes in the top by means of ladders. The smaller dwellings had two or three, and the larger from five to six, entrances. Several hundred persons would occupy one of these houses. These were divided by partitions of stakes, each space being appropriated to a family. No fires were made in these courts, and they were lighted with oil lamps made of hollowed stones. The houses were generally so warm that the inhabitants sat nearly naked in them. They slept under grass mats and their parkas. The men practiced the tonsure, while the women cut their front hair off in a line parallel with the eyebrow and tied the rest in a knot on the top of the head. Some of the men wore beards, and others pulled them out by the roots. Tattooing was practiced. The men made three holes

in the underlip and one in the cartilage of the nose. Both sexes wore a short bone cylinder in the nose, placed so as to distend the nostril. In the middle incision in the mouth they wore a rounded flat piece of bone or stone. In those at the corners of the mouth they wore a peculiar labret; they also pierced their ears and wore bone ornaments in them.

The most respected and influential of the Aleuts were those who were most successful in the chase. The great ambition of a man was to be a great hunter. Those who were unsuccessful were looked upon with more or less contempt. The number of wives was not limited, except that the best hunters had the greatest number, which seldom exceeded four. These women were at the disposal of visitors or travelers, guests of the husband, and were sometimes bartered away for anything which was greatly desired by the husband. There was no marriage ceremony. The women made their needles of the bones of birds' wings. The weapons of the men were bows and arrows, lances, and darts, the last of which they threw skillfully for a great distance, by means of a hand board. Both darts and arrows were feathered; the shafts were often of several pieces of wood, neatly joined. They were tipped with slate or flint, sometimes with bone, and afterwards with iron, which they obtained from the Russians. They also used stone hatchets and chisels, and made a kind of shield of wood and seaweed. They caught cod and halibut with bone hooks and sealskin or seaweed lines. Their food consisted of the flesh of the sea otter and fur seal, the blubber of the whale and sea lion, fish, shell fish, wild parsnips, fritillaria, berries, snakeroot, and some kinds of seaweed. These were generally eaten raw, or sometimes were cooked

over a fire between two hollowed stones cemented with clay. Vancouver visited the Aleuts in 1794 and found them under the domination of the Russians – virtually in a state of serfdom.

The Tinneh stock, otherwise known as the Sticks and Interior Indians, includes a large number of North American tribes, extending from near the mouth of McKenzie Sound to the border of Mexico. The tribes of this stock in the north extend westward nearly to the delta of the Yukon and reach the coast at Cook Inlet and the mouth of the Copper River. Father Morice describes the northern Tinnchs as generally pussilanimous, timid, and cowardly, but says a noteworthy quality, especially in such as have remained untouched by modern civilization, is their great honesty. They are gentle in disposition and have usually shown a remarkable receptiveness.

Readers who have thus far followed what has been said as to Vancouver's explorations will have noted that the large majority of Indians seen by him and his men were found near or at the head of the inlets explored, and that their habitations were located close together, without streets, and close to the seashore. Except in few instances, such continues to be their manner of locating and constructing their houses. There were and are good reasons for this custom. In the first place, because of the mountainous conditions of the coast and islands there were no other places for them to use, and because of this condition they were forced to secure their food not by agricultural pursuits but by hunting and fishing. Their food principally consisted of wild animals, fruits, and the products of the sea. Consequently they located by the seaside and generally close to gravelly beaches, which afforded them

good landing places for their canoes. Such places, as a rule, did not have to be cleared away. They did not build many houses, but, on the other hand, usually built a few very large ones. As we have already seen, these large houses were divided into apartments for the several families that lived in them.

The canoes used by the natives were of all sizes, carrying from two to forty or fifty persons. Most of them were made by the Haida Indians and were always made out of one tree, usually the yellow cedar being used. Before the white man came, these canoes were made with stone implements. After felling the tree it was cut off at the desired length of the intended canoe. The log was then rudely shaped according to the outlines of a canoe. The next process was to dig out the interior. Formerly this was done with a stone adz and fire. The wood was chipped away with the adz and burned until it assumed the desired shape. The outside was hewn into shape with the adz and other stone implements. In later years, the white man's adz and plane have been used. When the outside and inside had been so shaped as to be thin it was filled with water, which was heated with hot stones. The wood thus steamed became pliable, and braces were put in to hold it to the desired shape. This accomplished, the workman finished the job by chipping and polishing, until the craft with its beautiful lines was ready for the sea. The braces were left for seats, but, in the days of the paddle, the usual seat was the bottom of the craft. In 1913, I was shown two of these large canoes at Wrangell by Chief Shakes. He told me that the largest one of them was fifty feet long and would hold fifty passengers, and that he had bought both of them in Queen Charlotte Sound for five hundred dollars

each. The larger one was a beautiful piece of wood work. He had both of them carefully put away in a large enclosed shed and seemed to be much attached to them. He was very anxious to take the large one to the exposition at San Francisco, and wanted me to intercede for him so that he might be assured a reception if he took it there. He proposed to man the canoe and make the voyage by sea in it. Some of these canoes are beautifully decorated with totemic designs. A chief named Sam Hat, living at Kassan, gave to the district of Alaska a large war canoe of this type. It is forty-seven feet long, more than six feet across the beam and three and one-half feet deep. It is now kept with other relics at Sitka. An Indian explained to me the totemic designs on this canoe, but I do not now remember them in detail. The wonder is that it has remained in the open so long without having become sun cracked and destroyed.

Totems and totemic designs have been mentioned several times in this chapter. The entire native population of southeastern Alaska is divided, as has already been stated, into two great divisions, known as the Eagle and the Crow; the sub-totems of the eagle are the bear, wolf, whale, shark, etc., and of the crow, the beaver, frog, salmon, seal, etc. Every family must be of the eagle or crow fraternity, the husband of one side and the wife of the other, or vice versa.

The Reverend William Duncan, the Apostle of Alaska, who speaks with authority on anything pertaining to the natives of Alaska, thinks that totems were adopted to distinguish clans. In *The Metlakathlan* No. 4, he says: "The names of the four clans in the Tsimpsean language, are – Kishpootwadda – Canadada – Lacheboo and – Lackshkeak. . . The Kish-

pootwadda, by far the most numerous hereabouts, are represented symbolically by the grizzly bear on land, the finback whale in the sea, the owl in the air, and the rainbow in the heavens – the Canadda symbols are the frog, the raven, the starfish, and the bullhead. The Lacheboo take the wolf and the heron for totems. The Lackshkeak, the beaver, the eagle, the halibut and the dogfish. . . The creatures I have just named, are, however, only regarded as the visible representatives of the powerful and mystical beings, or Genii, of Indian mythology. And, as all of one group are said to be of the same kindred; so, all the members of the same clan, whose heraldic symbols are the same, are counted as blood relations. Strange to say, this relationship holds good, should the persons belong to different, or even hostile tribes, speak a totally different language, or be located thousands of miles apart. . . . On being asked to explain how his notion of relationship originated, or why it is perpetuated, in the face of so many obliterating circumstances, the Indians point back to a remote age, when the ancestors lived in a beautiful land; and where, in some mysterious manner, the creatures, whose symbols they retain, revealed themselves to the heads of the families of that day.

“They then relate the traditional story of an overwhelming flood, which came and submerged the good land, and spread death and destruction all around. Those of the ancients who escaped in canoes, were drifted about, and scattered in every direction, on the face of the waters; and where they found themselves after the flood had subsided, there they located, and formed new tribal associations. Thus it was that persons related by blood became widely scattered from

each other; nevertheless, they retained, and clung to the symbols, which had distinguished them and their respective families before the flood; and all succeeding generations have, in this particular, sacredly followed suit. Hence it is that the crests have continued to mark the offspring of the original founders of each family."

Vancouver, in his *Journal*, makes frequent mention of seeing totem poles. He, however, did not designate them by that name, nor did he attempt to account for their origin. He simply makes mention of seeing them and describing some of them. The first of them that I ever saw were at Alert Bay; the largest display of them that I have seen was at Old Kasaan. The erection of them has become a thing of the past, and no new ones are being made. In consequence of this fact, the United States Government has erected a number of them at Sitka along the road that leads from the town to Indian River. These no doubt will be kept painted and in good condition as an illustration of what once existed in front of almost every Indian village on the Pacific coast. In conclusion, I quote Mr. Jones: "Totemism is recorded history, genealogy, legend, memorial, commemoration, and art."

Vancouver in his *Journal* frequently makes mention of having come in contact with Indian women who were engaged in basket making. They wove baskets for almost every imaginable purpose, even for carrying water and cooking their food. Otis Tufton Mason, in his *Aboriginal American Basketry*, to which I am indebted for much material used in writing this chapter, says: "There is practically no limit to the uses to which basket-work weaving has been put. The enumeration of these uses in detail will show what a prom-



INDIAN HOMES AND TOTEM POLES AT OLD KASSAN, ALASKA
From a photograph taken in 1912

inent place the receptacle has had for holding water, food, and other precious objects, for gathering material connected with industry and transporting them. Basketry also enters into the house, the furniture, the clothing, the armor, the domestic economy, the family life, and religion of the American tribes."

On its Pacific slopes, North America is the home of basketry. From Attu, the westernmost of the Aleutian chain, to the borders of northern Mexico is to be found practically every type of the art. In making a voyage to the far northwest of Alaska, one will at almost every landing find squads of Indian women squatted at or near the landing with their baskets and other curios, awaiting to trade with tourists. This, as I have seen it, is most conspicuously seen at Sitka. There the Indians trading are all old women with shawls thrown over their heads and shoulders. I have never seen but one exception to this, and in that instance the fair young woman had not only her wares for sale, but also three beautiful children by her side. The conduct of these women is peculiar and interesting. They remain seated in silence, giving to the passer-by a rather inquisitive look, which seems to say, "Will you buy of my wares?" If you give attention to them, they will show you what they have to sell and name the price asked for it, and you can by no persuasion induce them to reduce the price fixed; it is that or nothing.

In making her baskets an Indian woman uses no models, drawings, or patterns. "Her patterns are in her soul, in her memory and imagination, in the mountains, water courses, lakes, and forests, and in those tribal tales and myths which dominate the actions of her every hour. She hears suggestions from another world. Her tools are more disappointing still, for these are

few – the rude knife, a pointed bone, that is all. Her modeling block is herself. Her plastic body is the repository of form. Over her knee she molds depressions in her ware, and her lap is equal to all emergencies for convex effects. She herself is the Vishnu of her art, the creator of forms. As you gaze on her at work, herself frequently unkempt, her garments the coarsest, her house and surroundings suggestive of anything but beauty, you are amazed. You look about you as in a cabinet shop or atelier for models, drawings, patterns, pretty bits of color effect. There are none.”

In the manufacture of their baskets, the Indians have resorted to the mineral, animal, and vegetable kingdom's for their material. Their chief dependence, however, is the vegetable kingdom. Nearly all parts of plants have been used by one tribe or another for this purpose – roots, stems, bark, leaves, fruits, and seeds. Of the woods used, some are best for the bottom, others are light and tough for the body, and others are best for the flexible top. In the construction of water-tight vessels the result is secured by close weaving of the texture and the use of certain natural substances such as the gum of the pinyon, the resin of various pines, and even mineral asphalt.

The preparation of material for basketry consists in splitting and separating the desirable from the undesirable portion; in removing the bark; in taking the soft and spongy matter from the fibrous portion, like soaking and hackling in flax; in making ribbon-like splints of uniform width and thickness; in shredding, as in cedar bark; in twisting, twining and braiding; engaging and coloring. In aboriginal times the apparatus for this use was a stone knife and shell, supplemented with the fingers and the teeth. The quality

of the finished workmanship depended largely upon this secondary process. Nature furnishes opportunities for diversity of color in the substances themselves. The Indian knows how to change or modify the natural color of different materials by burying them in the mud. By this process the juices of the plants and the mineral substances in the mud combine to produce darker shades of the same color, or an entirely different one. The brilliant yellow seen in baskets and in the famous Chilkat blankets is obtained from a moss which grows on certain trees. Green is obtained from copper rocks and from a common weed. Its leaves are boiled and the liquid makes a bright green dye. They get red from certain red berries, and purple from blue berries. The most durable and brilliant black is that of the natural black straws found in the bottom of certain lakes. There is a black made from soot and other ingredients, but it is inferior to the natural black straw. Brown is obtained from strong urine. The baskets made with the native dyes are far more valuable, other work being equal, than those that have been made with common diamond dyes.

The Thlinget in weaving sits with the knees drawn up to the chin, the feet close to the body, the shoulders bent over, the arms around the knees, the hands in front. Sometimes one knee is dropped a little to one side, and, in the case of old women, they often recline on one hip with the legs drawn up, the elbows resting on a pillow or blanket doubled up. In all types of weave the working strands are constantly dampened by dipping the fingers in a basket or cup of water close at hand, or, in the case of embroidery, by drawing the section of grass stem through the lips. The material is kept in a plaque-like work-basket, called Tarlth.

Besides the shell or metal knife there is generally a rude awl, consisting of a spike of goat or deer horn, a bear's claw, a piece of bone rubbed down to a tapering point, the large incisor of the brown bear, or the tooth of the killer whale. These constitute all the tools and accessories used in basketry.

According to Mason the basket work of the Haida Indians is all entwined weaving, and differs from that of the Thlingets in artistic finish only, owing probably to the demands of trade. Their wallets of spruce are devoid of decoration, save here and there a band in plain black color, as would be the Thlinget without embroidery, but hats made by these Indians are masterpieces in execution and ornamental weaving. The crown is in three strand or plain twined weaving of the most delicate workmanship, and the fabric is perfectly water-tight when thoroughly wet. Ornamentation is introduced into the brims by a series of diamond patterns in twilled weave covering the whole surface.

The basket work of the Thlingets is superb. Everyone who sees it is struck with its delicacy of workmanship, shape, and ornamentation. The material foundation and sewing is the young and tough root of the spruce, split and used either in the native or dyed brown or black. The structure belongs to the twined type and there is such uniformity and fineness in the warp and woof that a water-tight vessel is produced with very thin walls. In size the wallets vary from a diminutive trinket basket to a capacity of nearly a bushel. All sorts of designs in bands, crosses, rhombs, chevrons, triangles, and grotesque are produced in the make of a basket.

Aleutian basketry was first introduced to the world in 1874 by Professor William H. Dall. He says that

the warp and woof are straws of beach grass, and the workmanship will compare favorably with that of any other basket makers in the world. "The Aleuts perpetuate no story or myth in their ornamentation. With them it is art for art's sake." The most distinguished maker of these baskets was Elizabeth Propokoffono, a young, dark-eyed weaver of Atka. The finest work of Attu and Atka is done under water.

The Fight at Traitor's Cove

In the afternoon of July 22, Mr. Johnstone and Mr. Barrie, with a party in two cutters, left Salmon Cove, Observatory Inlet, for the purpose of continuing the survey of the continental shore northward from Point Maskelyne. On the night of the 24th, while in Nass Bay, they were alarmed by a visit of natives. But the Indians had no hostile designs; on their being made to understand that their visit was unseasonable, they paddled away, after throwing some fish into one of the boats.

The 25th was wholly employed in reaching Point Maskelyne, where, the next morning, they recommenced the survey of the continental shore from that point, pursuing it up (Work Channel) a branch that took immediately a southeast direction from it, until late in the afternoon, when it was found to terminate in latitude $54^{\circ} 20'$, longitude $230^{\circ} 21'$. Its shores approached within about a half a mile of the northeast part of Port Essington. The southwest shores of this arm were nearly straight and compact, its general width being from one and a half to two miles, excepting about six or seven miles within the entrance, where it was much narrower. From the head of this branch they returned along the northeast shore, and about dark entered a narrow opening, which, on the morning of July 27, was found to stretch irregularly, first towards the N. N. W. near four miles, and then to the E. N. E. to latitude $54^{\circ} 31\frac{1}{2}'$, longitude $230^{\circ} 16'$. This branch,

generally preserving the width of a mile, decreased at the end of its northwesterly course, by the projection of two points, to about fifty fathoms. The point extending from the western shore was a remarkably steep, rocky precipice, and at highwater became an island. This had formerly been the residence of a very numerous tribe of Indians, whose habitations were now fallen into decay, but it still retained the appearance of having been one of the most populous villages yet seen.

As it was in this arm that Mr. Brown had found occasion to chastise the natives by cannonading their village, Mr. Johnstone's party was much surprised that not a single inhabitant had been seen since those that had visited them on the 24th at night; this induced a more minute examination of the shores, and, in the morning of July 28, their attention was more particularly directed to those of that bay in which as they had understood the affray had happened. At the head of it was found a projecting rock, on which were the remains of a few Indian habitations that appeared to have been very recently deserted. Holes where shot had made their way through the houses proved it to be the identical place described by Mr. Brown. The explorers completed the survey of the inlet and, on the 30th, returned to the ships.

The inlet thus explored was later named Work Channel, after John Work, who for fourteen years following 1838 was in charge of Fort Simpson. Point Maskelyne, where Johnstone began his survey, was named after Nevil Maskelyne, astronomer royal from 1765 to 1811.

Portland Inlet, surveyed by Mr. Johnstone, extends from the northeast extreme of Chatham Sound in a general northeasterly direction for upwards of twenty

miles, with a width of about three miles in its entrance between Wales and Centerville islands, somewhat reduced farther up. It then divides, the western arm, Portland Canal, continues in a northerly direction for about sixty miles, with an average width of about one mile. The water is generally very deep and the anchorages few and indifferent. Both shores are bold and mountainous. Numerous large and small streams empty into the canal, and at its head the water is nearly fresh. In places the mountains rise almost perpendicular from the water to a height of six thousand feet, and their summits are always snow clad. The head of Portland Canal terminates in the usual low, woody, swampy land, with Bear and Salmon rivers pouring through it. The eastern arm, Observatory Inlet, trends a general north-northeast direction for about forty-three miles with a varying breadth of from one to four miles; its shores are similar to those described above.

Nass Bay, on the east side of the entrance to Observatory Inlet, is the estuary of Nass River. It is one and one-half miles wide at its entrance and this width is preserved in a southeasterly direction for two miles, where it divides, one branch taking a northeasterly direction to Nass River, and the other a southwesterly direction, forming Iceberg Bay. An extensive sand flat, which dries at low water, occupies nearly the whole of the eastern portion of the bay. At Kincolith, a mission station at the mouth of Mission valley, there are sawmills that are owned and worked by Indians. Gold is found here in small quantities and also coal. I visited this mission in July, 1918.

Nass River flows into the eastern part of Nass Bay. The width of the mouth of the river is much reduced by a sand flat. The fairway depth is about two fathoms

at low water. Above Point Fort, the navigation is difficult in places, the channel at low water being barely available for large canoes; local steamers, however, drawing six feet of water, venture up, though they frequently run aground. The channel is liable to change after freshets. Nass Villages are situated about sixteen miles up, following the windings of the river. The Oolican fish, from which the nutritious oil is obtained that is the principal sustenance of the Indians, are caught in great numbers during the spring, as are also salmon. There are two salmon canneries in the Nass River, one in Iceberg Bay, and the other three-quarters of a mile eastward of Point Fort.

It was concerning Nass Bay and Nass River that Vancouver, after he had received Mr. Johnstone's report of them, said: "These are too insignificant to be dignified by the name of rivers, and in truth scarcely deserve the appellation of rivulets; but should it hereafter be thought expedient, in support of the late prevailing conceits, and to establish the pretended discoveries of De Font, De Fonta, or De Fuentes, that one of these brooks should be considered as the Rio de los Reys leading into Lake Bell, I must beg leave to premise, that neither of their entrances will be met with under the parallel of 43, 53 or 63° of north latitude; these being the several different positions assigned to the entrance of this most famous Rio de los Reys, by speculative closet navigators. Had any river or opening on the coast existed near the 43rd or 53rd parallel, north latitude, the possible system that has been erected would most likely have been deemed perfect; but, unfortunately for the great ingenuity of its *hypothetical projector*, our *practical labours* have thus made it totter; the position of the former stream, seen by Mr.

Whidbey, falling into Port Essington, being in latitude $54^{\circ} 15'$, that of the latter in $54^{\circ} 59'$; neither of which will correspond with any of the positions above mentioned."

When it is remembered that Vancouver and his associates failed to discover the Columbia River, Gray's Harbor, the Fraser River, Schoonover Passage, and the Skeena River, all navigable waters, the conclusion must be that the foregoing statement as to the accomplishment of "our practicable labours," was ill-timed and had better not have been written.

The account which Vancouver had received from Mr. Brown of Portland Inlet and its branches induced him to undertake its examination. Accordingly the Discovery's yawl and launch were equipped with supplies for a fortnight. Lieutenant Swaine was directed to attend him in the launch, and Mr. Puget with Mr. Menzies were to accompany him in the yawl. During this examination they expected finally to determine the reality of the discoveries attributed to the labors of Admiral de Fonte. Matters being all adjusted and arranged, they departed from Salmon Cove at five o'clock on Wednesday morning, July 24, in thick, rainy, unfavorable weather. Their course was first directed along the eastern shore of Observatory Inlet, which from their anchorage on July 22, took a direction N. 14° E. for six miles. They passed an island to the west of them, two miles long and a half a mile broad, lying nearly in the same direction, about three-fourths of a mile from the eastern shore; and having reached this extent they entered (Alice) a narrow arm, leaving to the west a coast apparently much broken and divided by water.

They stopped to dine about a mile short of the head

of this arm. Here they were visited by seven of the natives, who approached them in a canoe with much caution, and landed some of their party at a little distance, whilst the others advanced, seemingly with no small suspicion of their friendly intention; this, however, was soon removed by the distribution of some trivial presents among them. They were well prepared for defense with long spears and bows and arrows, together with iron daggers that each man wore about his neck or wrist. The chief of this party was soon pointed out, who, by means of signs easily understood, desired to partake of their repast. He was given some bread and dried fish, and afterwards a glass of brandy, all of which were much relished by himself and two or three of his friends. These people differed very little from the generality of the circumadjacent natives. Their language appeared to be similar in some respects to that spoken in Queen Charlotte Island. They urged the explorers to visit their habitations, pointing out the situation to be on the low land at the head of the arm. Their invitations, however, were declined, and with a favorable ebb tide the party returned towards the entrance of the arm, being accompanied by the Indians, who were soon joined by another party from the village in a smaller canoe. On finding, however, that Vancouver did not return for the purpose of trading, they all retired to their village.

Next day, Vancouver's party proceeded up what seemed to be the main inlet (Hasting's Arm) only to find it terminated by low swampy ground about ten miles up. Their expectations of discovering the extensive inland navigation attributed to the name of Ewen Nass, were here a little disappointed. Still, however, they entertained hopes of succeeding, by the

appearance of the low land on the western shore; and they returned in the afternoon to prosecute its examination. It was found to be a compact shore, much indented with small bays and coves, and abounding in some places with sunken rocks. In the southwesternmost of these coves, which was the deepest, they halted for the night; and although a situation for their tents was fixed up among the pine trees, at least twenty feet above the surface of the water at their landing, and as they thought beyond the reach of the tide, yet, by two o'clock in the morning July 26, it flowed into the tents, and they were obliged to return to their boats. At daylight, they pursued the western shore of Observatory Inlet towards the ships, where they arrived about noon.

The discovery of vast copper deposits in the region of Granby Bay on the western shore of Observatory Inlet has recently resulted in great development in this region. The most important center is Anyox. I visited this place, July 13, 1918, and found it a city and a seaport, miniature 'tis true, but nevertheless complete in every detail, possessing its electric light system, its water supply system, its churches, schools, play grounds, hospital, hotel, apartment houses, department store, theater, dockage facilities for the largest deep-sea liners, and the numerous other things that go to make up a modern coast metropolis; such, in brief, is Anyox, the busy thriving center which has sprung into existence on the Granby Consolidated Mining, Smelting, and Power Company's property at Granby Bay, about five hundred and fifty miles north of the city of Vancouver. Nestling in the heart of one of nature's beauty spots, Anyox seems to be the culminating feature of a wondrous panorama, which spreads itself be-

fore the eyes on the journey north from Vancouver. Surrounded by towering, steep, and rugged mountains, heavily covered with timber, Anyox gives the impression of a goodly-sized town that has been lifted bodily from some densely populated spot, and crowded into the space between the water and the precipitous background. The surrounding mountains are heavily glaciated, and many glaciers on the mountain tops can be seen the year around.

It is from Hidden Creek that the Granby Mining, Smelting, and Power Company is extracting the huge quantities of mineral that have placed it in the enviable position of being the greatest copper producing industry in the world. From an insignificant little stream trickling down the mountain side, Hidden Creek has now become a name known in the mining circles of the world and regarded as the richest copper bearing spot discovered in recent years.

Each year sees Anyox springing farther up the mountainside as houses are erected to accommodate its increasing population. The streets, which have been laid out to conform to the contour of the ground, are well-kept and at night are well lighted by electric lights. Modern cottages have been built for the use of married employees, and these dwellings, erected in that portion of the settlement which seems essentially the residential section, present a very pretty picture in their uniformity and newness. To accommodate its single employees, the company has rooming houses, in which there are no hallways, every room having an outside entrance. These rooming houses are modern in every respect, each room having hot and cold water, steam heat, and electric lights, and they are also equipped with bath rooms, shower baths, and lavatories. The

boarding house, which seats about two hundred and fifty persons, is a concrete building with all the latest improvements, such as cold storage, bake shops, and laundry.

From Alice Arm our vessel voyaged into Hastings Arm, which has already been described, except that its beauties have not been delineated. This arm I regard as one of the most beautiful bodies of water that I have ever seen. It was in the evening time that we voyaged through it. Its sides are almost perpendicular, thousands of feet high, and yet notwithstanding this fact they are densely covered with evergreen trees, making the impression that you are passing through a woodbound canal. As we steamed through it the waters were placid and altogether it was the most delightful short voyage I have ever made. At the head of this arm we found in course of construction a railroad from the bay to the Dolly Varden Mining Company's silver mine, which is located some eighteen miles up a creek, the name of which I did not ascertain. The bay at the head of the arm was beautifully located, being semi-circular in shape and bordered by very high, precipitous mountains, the tops of which were covered with snow.

On our return we visited several fish canneries in Nass Bay. It is to this bay and Nass River that the Indians resort in March for their supply of what is commonly called candle fish. Scientifically speaking, this is the *thaleichthys pacificus*. Sir James Douglas calls it "oolaghan;" Miss Skidmore, the "olichan;" and Mr. Arctander, the "ooklakan." My friend Dr. Carl H. Eigenmann, an acknowledged authority on fishes, in a letter addressed to me, says that the proper name of this fish is "oolachen." This fish is described as a

wonderfully sweet one, when freshly caught, and in appearance a good deal like a smelt. Most of them are about twelve to fourteen inches long and contain more oil than any other known fish. In a frying pan they melt away like a lump of butter, and, when dried and provided with a wick they burn like a candle and are used by the Indians for that purpose—hence the name, “candle fish.”

Mr. Arctander in his, *The Apostle of Alaska*, in speaking of the time when Mr. Duncan first went to Port Simpson in 1857 says: “When the first of March came, the Indians of the different tribes at Fort Simpson broke camp, left their houses untenanted and unlocked, and came with their families to occupy for a month or two their ancient fishing grounds on the banks of the Nass River, forty-five miles or so farther north, where the water of the great river tumbles over the bar into the Portland Canal. They know that this is the time for the oolakan to run up the river, and it is important to be on hand at this great event. Between the sixteenth and twentieth of March, each year, you can see them by the millions, yes by the billions, up Portland Canal and hustling over the bar of Nass River, their great stamping ground. At the time we are now interested in their coming furnishes a great sight. On the banks of the river and in hundreds of canoes, near and on the bar are from five to eight thousand Indians, all crying and yelling, ‘You are all chiefs, every one of you,’ as they attempt to fill their canoes with shining silvery fish. The sea gulls by the thousands, swing above the incoming shoals, jabbering and chattering, moving back and forth, up and down, all the day long. Further down, are spring salmon which are after the oolakan,

as well as the gulls and the Indians – jumping out of the water in their mad chase. After them again a little farther down, are lurking the cunning hair seals, watching their chance; and still farther away you see the spoutings of the large finback whales, which follow the sea, only to be followed in their turn by the orca, the whale killer, which will rip open and disembowel one of these sea monsters in the twinkling of an eye, with its fin which is as sharp as a razor, and this glorious sight and all this incessant battle keeps on for a month or more. Thousands and thousands of bushels of the little ‘chiefs’ fishes are landed, and put into wooden kettles, which are filled with water made to boil by red hot stones dropped into the receptacle. The grease of the boiling fish floats on top. The remainder of the fishes, piping hot as they are, are scooped up into the pine-tree-root baskets, and then the boiling hot mass is pressed against the bare breasts of the women, till the grease, every drop of it, has been squeezed out. The oil must be pressed out in no other way. It would ‘shame’ the fish to treat it otherwise. With the precious grease, or oil so obtained, the Indians now return to their homes at Fort Simpson.”

Mr. Jones, in his *Study of the Thlingets*, says: “While the herring are taken almost the year around, the oolikan appear in the spring only and then for but two or three weeks. They come into certain rivers in great schools, literally cramming them. They are scooped out of the river with a dip net, and dumped into a large hole in the ground to ‘mellow.’ It is claimed that the oil comes out of them better when in a state of putrefaction. This is not considered a detraction in any way, but rather adds excellence to the taste, just as some highly civilized people prefer cheese

flavored with skippers and fowl mellowed with age. When sufficiently 'ripe,' the oolikan are taken out of the hole and put into a small canoe which is used as a caldron. Hot stones are thrown among the fish to try the oil out, and this is put into boxes or cans of about five gallons capacity and stored away for winter use. When cool it has about the same color and consistency as butter and is practically the butter of the people. They scarcely eat a meal without using oil. The Thlinget dips his bread, biscuit, and dried fish into it and puts up his berries for winter use in it. His body is so saturated with it through use as to make his skin shiny and almost impervious to cold."

Having completed the survey of Observatory Inlet, Vancouver recruited his stock of provisions, and, after dining on board the *Discovery*, recommenced his examination, on Friday, July 26, along the western shore of that inlet, and rested for the night in a small cove, about twelve miles to the southward of the ships. Early the next morning, Saturday, July 27, he set out with fair weather, and having a rapid tide in his favor, soon reached the east point of entrance into the N. N. W. branch, which, after Mr. Ramsden, the optician, he called Point Ramsden. Thence they directed their course N. W. three miles to a low point on the larboard shore, where they found this arm to communicate with another, leading in a S. W. and N. N. E. direction, and being in general about half a league in length. After breakfast, they pursued the latter direction, and steered for the eastern or continental shore. As they advanced they were joined by a party of fifteen natives in two canoes. These people approached them without much hesitation, and in their countenances was expressed a degree of savage ferocity, infinitely surpassing anything

of the sort Vancouver had before observed in the various tribes that had fallen under his notice. Many of those they had before seen had their faces painted in various modes; but these had contrived so to dispose of the red, white, and black as to render the natural ugliness of their countenances more horribly hideous. Vancouver offered them such presents as he had been accustomed to make on several occasions, but these were rejected by some with disdain, whilst a few who deigned to accept anything, received the gifts with a stern and cool indifference. Amongst the party was a woman who was additionally disfigured by one of those extraordinary lip ornaments which augmented her forward, shrewish aspect. Vancouver offered her a looking-glass, with some trinkets, but, at the instance of the most savage fellow of the party, she contemptuously rejected them. This Indian then arranged his spears, about six or eight in number, and placed them with their points just over the bow of the canoe, near where he sat; he also laid near him his bow with some arrows; then he put on his war garment, and drew his dagger; some in the other canoe made similar preparations, either to menace an attack, or, what seemed to Vancouver more likely, to convince him they were upon their guard against any violence he might be inclined to offer them. An armed conflict was narrowly averted.

Vancouver did not observe that these people differed from the generality of the northwest Americans, otherwise than in the ferocity of their countenances. Their weapons seemed well-adapted to their condition; their spears, about sixteen feet long, were pointed with iron, wrought in several simple forms, amongst which some were barbed. Their bows were well-constructed, and

their arrows pointed with bone or iron. Each man was provided with an iron dagger, suspended from his neck in a leather sheath, seemingly intended to be used when in close action. Their war garments were formed of two, three, or more folds, of the strongest hides of the land animals they were able to procure. In the center was a hole sufficient for the head and left arm to pass through; the mode of wearing them being over the right shoulder, and under the left arm. The left side of the garment was sewed up, but the right side remained open; the body was, however, tolerably well protected, and both arms were left at liberty for action. As a further security on the part which covered the breast they sometimes fixed on the inside thin laths of wood; the whole was seemingly well-contrived and Vancouver doubted not that they answered the essential purpose of protection against their native weapons.

The shores of this inlet were nearly straight, and in general little more than a mile asunder, composed mostly of high, rocky cliffs, covered with pine trees to a considerable height; but the more interior country was a compact body of high, barren mountains covered with snow. As they pursued this branch, salmon in great plenty were leaping in all directions. Seals and sea otters were also seen in great numbers even where the water was nearly fresh, which was the case upwards of twenty miles from its termination. Mortified with having devoted so much time to so little purpose they made the best of their way back. At noon, Vancouver observed the latitude to be $55^{\circ} 42'$, from whence to their reaching the western shore, near where they had entered this branch, occupied their time until late in the evening of Tuesday, July 30, when they brought to in a small cove, behind an island about a half league

from them, and not far from the place where they had met the ungracious natives on the preceding Saturday. This concluded Vancouver's survey of Portland Canal, not so named by him.

Vancouver, on the morning of July 31, directed his examination along the western, or continental shore of Portland Canal to the S. S. W. in a continuation of (Pearse Canal) a branch they had seen on the way up. The shores of both sides of it were straight, compact, of moderate height, and in general little more than a mile apart. On the western shore they entered (Hidden Inlet) a small opening not more than a cable's length in width, stretching to the northward; up this they had made little progress when the launch which had proceeded them and had reached its extremity was met on her return. Mr. Swaine informed Vancouver that its termination was about a league from its entrance, and that its width was from a quarter to a half a league. They stopped for the purpose of dining, and were visited by a canoe, in which were three natives, who approached them with little hesitation, and seemed well-pleased on receiving a few trivial presents. They earnestly solicited Vancouver's return to the head of this little arm, where, it appeared, their chief resided, but as it was out of his way, he declined their proposal; at which they seemed hurt and disappointed, but they retired in perfect good will. After dinner, Vancouver's party attempted to return by the way they had come, but on approaching the entrance to the arm the rapidity of the flood-tide prevented their advancing against it until near high water, about six o'clock in the evening. Many of the small trees at the place where they had dined had been cut down with an axe, an implement not yet used by the natives.

Having again reached the arm leading to the S. S. W., they proceeded in that direction and passed two small, rocky islets, about a mile to the south of the last mentioned small arm. Finding the main channel now regularly decreasing to a half a mile in width, and having a strong southerly breeze, they did not proceed more than three miles before they rested for the night. The narrowness of the channel, and the appearance of its termination before them, would have induced Vancouver to have relinquished all thoughts of finding a communication with the ocean by this route, had it not been for the indications presented by the shores on either side. These gradually decreasing in height, with a very uneven surface, were entirely covered with pine trees; and as such appearances had, in most instances, been found to attend the broken parts of the country immediately along the sea coast, Vancouver was encouraged to persevere in this pursuit. They had not been long landed before the natives who had visited them at dinner time made their appearance again, accompanied by a large canoe in which was the chief of their party. Vancouver directed them to land at a small distance from their boats, with which they readily complied. The chief received some presents, and in return, gave Vancouver two or three sea otter tails. This exchange of compliments seemed to be an assurance of a good understanding between them; and on a promise of entering further into trade the next morning, they retired to a small cove about half a mile from where they were, with every appearance of being perfectly satisfied; but, about a half an hour afterwards, one of their canoes was seen paddling towards Vancouver's party. On their appearance a pistol was fired in the air, which had the good effect of showing

that the explorers were upon their guard and prevented their giving the party any further disturbance. As soon as it was daylight Thursday, of August 1, these people, accompanied by another canoe, were back according to the appointment of the preceding evening. They offered for sale the skins of the sea otter and a large black bear, which seemed to have been killed by a spear in the course of the night. Vancouver was not backward in complying with his part of the agreement; but, like those whom he had seen on Saturday, these rejected every article offered, and, excepting firearms and ammunition, which were not offered to them, Vancouver could not discover on what their inclinations were placed. They followed him for two miles, persisting in declaring that they would "winne water," until at length, finding no other articles were offered them than those they had before declined, they retired, exclaiming "Pusee" and "Peshack," which were understood as terms of disapprobation. This party, including one woman, with a lip ornament, consisted of sixteen or eighteen persons, who, in character, much resembled those they had seen the preceding Saturday. This woman, as well as the others they had seen on the 27th, steered the canoe. She appeared to be a most excessive scold, and to possess great authority. She had much to say respecting the whole of their transactions and exacted the most ready obedience to her commands, which were given in a very surly manner.

From the place at which Vancouver's party had slept, this (Pearse Canal) took a direction S. 42 W., about a league and a half, to a point in latitude $54^{\circ} 48'$, longitude $229^{\circ} 39\frac{1}{2}'$, whence the continental shore took a direction N. 25 W. about a league, through (Wales Harbor) a narrow channel not a fourth of a mile in

breadth, having in it several islets and rocks. In order to make sure of keeping the continental shore on board, they pursued this, and left the southwesterly channel, whose width had increased to about a mile, and whose shores appeared to be much broken, as if admitting several passages to the sea. At the north end of this narrow channel they came to (Filmore Inlet) a larger one, extending N. 35 E. and S. 35 W. The former first attracted their notice; this by noon was found to end in latitude $54^{\circ} 55\frac{1}{2}'$, longitude $229^{\circ} 40'$; not in low marshy land as had been generally the case in the interior parts of their survey, but by low, deep, rocky shores, forming many little bays and coves, abounding with rocks and rocky islets. Here they saw an immense number of sea otters, and among them a few seals, but more of the former than Vancouver had yet noticed.

In examining these broken parts of the shore, the launch had preceded the yawl, whilst Vancouver was taking necessary angles. On rounding the point, Vancouver discovered the launch endeavoring, as he supposed, to pass a tremendous fall of water; the evening was closing in, and being about high tide, the fall appeared to obstruct their proceeding; but as they continued to advance, Vancouver hailed and waved them to desist. On their meeting, Vancouver found they fortunately had possessed sufficient strength and time to extricate themselves from a very alarming situation.

In the morning of August 2, they set out early and passed through a labyrinth of islets and rocks along the continental shore; this, taking now a winding course to the south and west, showed the southeastern side of the channel to be much broken, through which was a passage leading S. S. E. towards the ocean. They passed

this in the hope of finding a more northerly and westerly communication; in which they were not disappointed, as the channel they were then pursuing was soon found to communicate also with the sea, making the land to the south of them one or more islands.

For some days, Vancouver continued the tedious work of tracing the continental shore, as required by his instructions from the Board of Admiralty. On August 7, on the shore of Smeaton Bay, he found near the ruins of some temporary huts a box about three feet square, and a foot and a half deep, in which were the remains of a human skeleton, which appeared, from the combined situation of the bones, either to have been cut to pieces, or thrust with great violence into this small space. One or two other coffins, similar to this, had been seen in the excursions of the boats during that season; but as they had met with so few of this description, Vancouver was inclined to suppose that this mode of depositing their dead was practiced only in respect to certain persons of their society, since, if it had been the general usage, they would in all probability have more frequently noticed them.

From a small round island lying off the northwest point of the most northern of the Winstandley Islands Vancouver saw a most remarkable rock which resembled a ship under sail. It was N. 22 W. and near a league distant, with several rocks and islets between it and the continental shore. Its situation and elevation, if accessible, promised to afford them an excellent view of the inlet, and its singular pyramidal appearance excited their curiosity. They reached the rock about seven o'clock and found the main inlet to take nearly a north direction, maintaining a width from two to three miles. On the base of this singular rock, which

from its resemblance to the light house rock off Plymouth Vancouver called the New Eddystone, they stopped to breakfast. Whilst they were thus engaged, three small canoes, with about a dozen of the natives, landed and approached them unarmed, and with the utmost good humor accepted such presents as were offered to them.

Vancouver found the water was perfectly fresh at the head of Burroughs Bay, a branch of Behm Canal, and that the whole surface was strewn with salmon, either dead or in the last stages of their existence. Many had life sufficient to give them motion, though wanting vital powers to keep them beneath the surface of the water. In the course of this excursion great numbers of these fish had been seen, not only in all the arms, but in almost every run of fresh water, particularly near the termination of the several inlets, where they were innumerable, though most of them were in a sickly condition. The explorers had no difficulty in taking as many of the best as were needed for use; these, however, had little of the color and nothing of the flavor of salmon, and were very insipid and indifferent food.

Having traced the northeast extent of Behm Canal, and finding it only to form the deep bay which by Vancouver was named Burrough's Bay, they returned along the northern shore, which took a direction somewhat irregularly down (Behm Canal) the southwesterly branch to a point by Vancouver named Point Lees. On Point Lees was found the remains of a deserted native village, the largest of any Vancouver had seen for some time, and so constructed as to contain an estimated population of at least three or four hundred

people, who appeared to have quitted it not many months before.

On August 11, while on their way back to the ships, the explorers near Spacious Bay came upon a considerable number of natives. Four canoes approached the launch, which was then some distance astern, and by their singing appeared to be very peaceably inclined. Vancouver's yawl was visited by a small canoe with two natives in it, who seemed in the greatest good humor, and accepted presents in a most friendly way. Some of their associates who were still on the shore, came off in two small canoes, just as Vancouver was putting on shore for the purpose of taking the requisite angles. Their behavior was civil and inoffensive. They offered skins and other commodities for barter, and these were accordingly exchanged, without the least apprehension of any evil design on their part. Vancouver landed, leaving Mr. Puget in the yawl to entertain their new visitors.

In a little time the natives became extremely clamorous, and were shouting to the large canoes that were near the launch. On Vancouver's return to the boat, Mr. Puget informed him that the natives had betrayed a very thievish disposition, and that he had reason to suspect they were inclined to be turbulent. Vancouver immediately ordered the yawl from the shore, hoping by that means to get rid of them. The number of their canoes was by this time four or five. The occupants of these laid fast hold on the yawl's quarters, calling out, "winnee water." At Vancouver's solicitation they frequently quitted their hold but almost instantly resumed it. Vancouver and Puget, however, put off from the rocks, and had partly got the use of their oars, without

being obliged to resort to any hostile measures, when the largest of the canoes, under the steerage of an old woman with a remarkably large lip ornament, laid them on board across the bow. She instantly snatched up the lead line that was lying there, and lashed her canoe with it to the yawl. In the meantime a young man who appeared to be the chief seated himself in the bow of the yawl, and put on a mask resembling a wolf's face compounded with the human countenance. About this time the Indian who had first visited them, watching his opportunity, stole a musket out of the boat. The situation of the explorers was now very alarming. The only chance for their preservation was, if possible, to postpone an attack by a kind of parley, until their friends in the launch might come to their assistance. Vancouver went forward with a musket in his hand, in order to speak to the chief; on which the surrounding Indians, about fifty in number, seized their daggers, brandished their spears, and pointed them towards Vancouver's party from all directions. Vancouver still hoped to effect an amicable separation without resorting to extremities. The chief instantly quitted the yawl at Vancouver's request, and gave him to understand that if he would lay down his musket, his people would lay down their arms. These conditions were complied with, and tranquility appeared likely to be restored.

Vancouver had reason to believe that nothing further would have happened had not the Indians been instigated by the vociferous efforts of their female conductress, who seemed to put forth all the powers of her turbulent tongue to excite, or rather to compel, the men to act with hostility towards them. Her language appeared to have the most effect upon those who were

towards the stern of the yawl, and who were likewise greatly encouraged by a very ferocious looking old man in a medium sized canoe. Assisted by his companions, he seized hold of the oars on the starboard side, and prevented them from being used. Observing this, and that the spears were again being brandished in that quarter, Vancouver again made signs for peace, and immediately went aft, where he found Mr. Puget using his utmost endeavors to accomplish the same object, which once more seemed likely to take place by their laying down their arms a second time. This condition of affairs continued but for a few moments. Vancouver had scarcely turned around before he saw the spears in the canoe which contained the chief and the old woman all in motion, but upon his stepping forward they were dropped again. Whilst he was thus engaged, the Indians near the stern of the yawl became very troublesome, and as he was passing back along it, a general commotion seemed to have taken place. Some spears were thrust, one or two of which passed very near to Vancouver. The Indians began to seize the movables in the yawl that they could reach, and to commence other acts of violence. The destruction of the explorers now seemed almost inevitable.

By this time, however, which was about ten minutes from Vancouver's return to the boat, the launch had arrived within pistol shot. Being now thoroughly satisfied that forbearance had given the Indians confidence, Vancouver gave directions to fire. This order was instantly complied with by both boats and was, to Vancouver's great astonishment, attended with the desired effect, and the explorers had the happiness of finding themselves immediately relieved from a situation of the most imminent danger.

Those in the small canoes jumped into the sea, whilst those in the larger ones, by getting all on one side, raised the opposite side of their canoe so that they were protected from the fire of the yawl, though they were in some measure exposed to the launch. In this way they scrambled sideways to the shore. On reaching it they ascended the high, rocky cliffs of which it was composed, whence they endeavored to annoy those in the launch, with stones, some of which fell into her at the distance of thirty or forty yards from the shore, and from whence they also fired a musket. The launch was now ordered to join the yawl, and an equal distribution of the remaining arms and ammunition was made to both boats. Being now fully prepared to repel any further attack, they rested on their oars about a quarter of a mile from the precipice the Indians had gained, until Mr. Menzies had dressed the wounds of two men who had been badly wounded in the affray. Robert Betton, in the act of removing the arm chest, was first wounded in the breast, but by seizing the spear, he in a great measure parried the blow and destroyed its force; but on its being instantly repeated, he received a very deep wound in the upper part of his thigh, which was little short of being fatal. George Bridgeman was also badly wounded lower down in the thigh, by a spear that passed quite through it. Both of these men received their wounds as Vancouver was returning the second time to the stern of the boat, and just before he was compelled to give the order to fire. Their wounds being dressed, and berths, one in each boat, provided for the unfortunate men, Vancouver departed, giving the point on which they had landed the name of Escape Point, and to a small cove opening about a league to the northward of this point, the name of Traitor's Cove,

the Indians having from thence made their first appearance.

About noon of August 14, the explorers landed on a small island lying to the south of Cape Northumberland. On a high detached rock they discovered the remains of a large native village, much more exposed to the inclemency of the weather than any Vancouver had before seen. Here was found a sepulcher of a peculiar character. It was a kind of vault formed, partly by the natural cavity of the rocks, and partly by the rude artists of the country. It was lined with boards, and contained some fragments of warlike implements lying near a square box covered with mats and very curiously corded down. This they naturally conjectured contained the remains of some person of consequence, and it much excited the curiosity of some of the party; but as its further examination could not possibly have served any useful purpose and might have given umbrage and pain to the friends of the deceased, should it be their custom to visit the repositories of their dead, Vancouver did not think it right that it should be disturbed, and it was not.

From the island last named they directed their course across the southeast entrance of the Canal de Revilla Gigedo, and, before dark, reached the cove that had afforded them shelter on the evening of August 3. Here they rested for the night, which was more temperate than they had reasons to expect, and, early on the following morning, Thursday, August 15, they again bent their way towards the vessels. In the forenoon they reached that arm of the sea whose examination had occupied their time from July 27 to August 2. The distance from its entrance to its source was found to be about seventy miles, which, in honor of the noble

family of Bentinck, Vancouver named Portland's Channel. Their provisions were now so nearly exhausted that each of them that day dined on half a pint of peas, and as a consequence they were under the necessity of keeping on their oars or under sail all night. They arrived on board the vessel in Salmon Cove about seven o'clock on the morning of August 16. They had been almost entirely confined to the boats for twenty-three days, in which time they had traversed upwards of seven hundred geographical miles, without having advanced their primary object of tracing the continental boundary more than twenty leagues from the station of the vessels. Such were the perplexing, tedious, and laborious means by which alone they were enabled by degrees to trace the northwestern limits of the American continent.

